

BUSINESS WEEK



Kroehler's D. L. Kroehler: In furniture—prosperity and confusion (page 112)

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JAN. 12, 1957



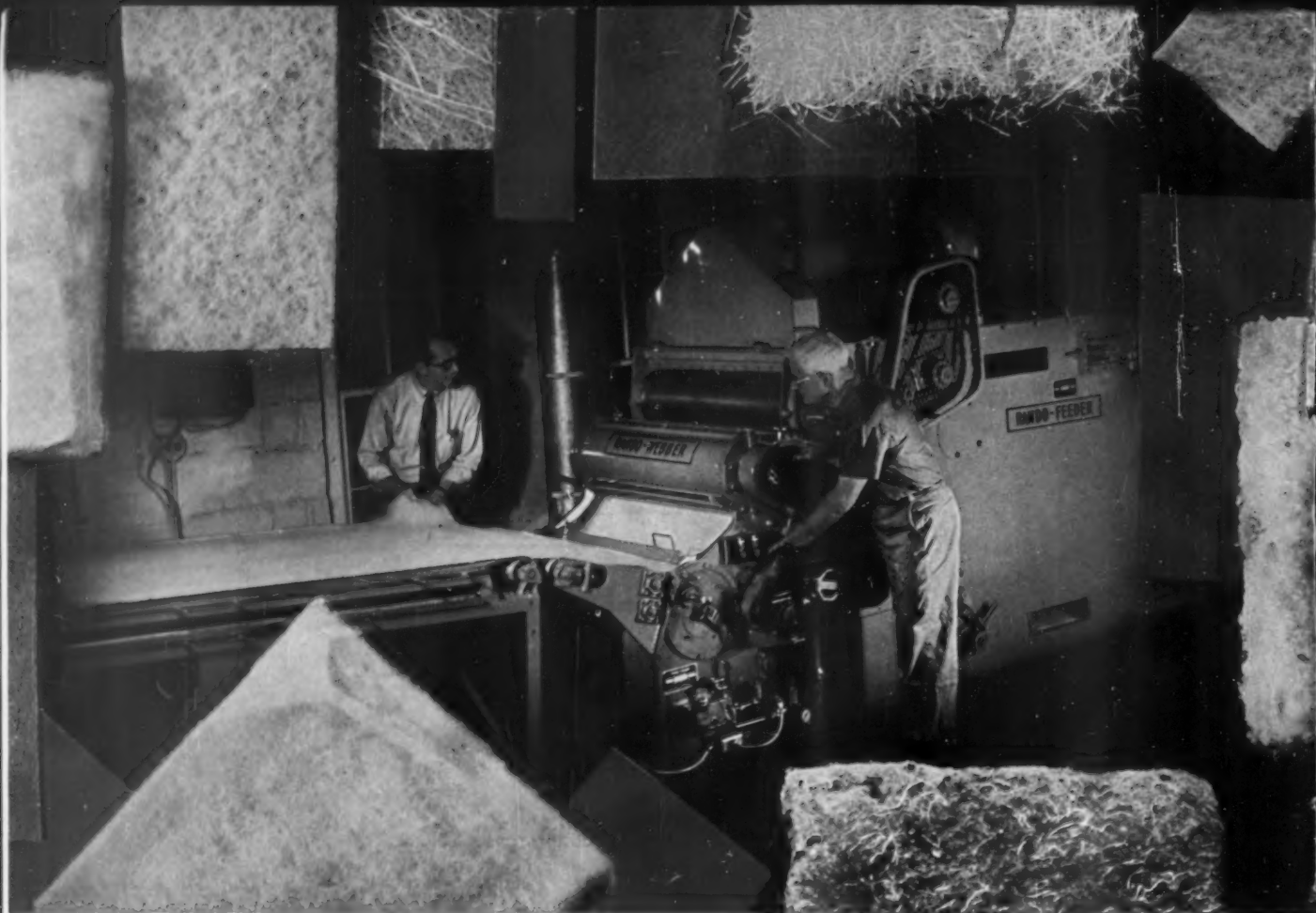


Photo courtesy Curlator Corporation, East Rochester, N. Y.

Waste not, want not — 1957 style!



COATINGS
DEPARTMENT



Pictured above is one way for today's manufacturers not to be found wanting for a method of turning processing wastes into profitable products. These ingenious machines convert a variety of fibers—animal, vegetable, mineral, synthetic—into versatile, non-woven fabrics, mats, wadding or felt, efficiently and economically.

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GENERAL BUSINESS

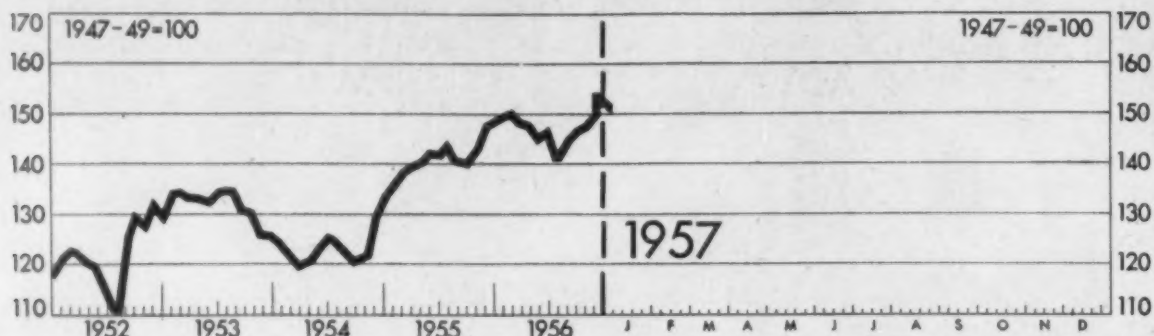
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FIGURES OF THE WEEK



BUSINESS WEEK INDEX (chart)

1946 Average	Year Ago	Month Ago	Week Ago	5 Latest Week
91.6	149.3	153.6	†153.0	*152.2

PRODUCTION

Steel ingot (thous. of tons).....	1,281	2,428	2,522	†2,490	2,517
Automobiles and trucks.....	62,880	149,386	202,290	119,276	107,959
Engineering const. awards (Eng. News-Rec. 4-wk daily av. in thous.).....	\$17,083	\$60,564	\$68,961	\$72,303	\$68,506
Electric power (millions of kilowatt-hours).....	4,238	11,057	12,047	11,196	11,671
Crude oil and condensate (daily av., thous. of bbls.).....	4,751	7,026	7,353	7,392	7,417
Bituminous coal (daily av., thous. of tons).....	1,745	1,840	1,823	†1,863	1,064
Paperboard (tons).....	167,269	182,195	275,418	222,250	102,280

TRADE

Carloadings: miscellaneous and L.E. (daily av., thous. of cars).....	82	72	72	68	69
Carloadings: all others (daily av., thous. of cars).....	53	47	53	49	45
Department store sales index (1947-49 = 100, not seasonally adjusted).....	90	88	†197	†265	112
Business failures (Dun & Bradstreet, number).....	22	198	270	174	222

PRICES

Spot commodities, daily index (Moody's, Dec. 31, 1931 = 100).....	311.9	405.5	440.4	441.6	438.2
Industrial raw materials, daily index (BLS, 1947-49 = 100).....	††73.2	102.4	100.9	99.8	99.0
Foodstuffs, daily index (BLS, 1947-49 = 100).....	††75.4	75.0	83.4	82.5	83.3
Print cloth (spot and nearby, yd.).....	17.5¢	20.6¢	19.0¢	18.8¢	18.8¢
Finished steel, index (BLS, 1947-49 = 100).....	††76.4	155.6	168.8	169.9	171.3
Scrap steel composite (Iron Age, ton).....	\$20.27	\$53.67	\$65.17	\$63.50	\$60.83
Copper (electrolytic, delivered price, E & M, lb.).....	14.045¢	44.055¢	35.955¢	35.925¢	35.965¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$1.97	\$2.26	\$2.33	\$2.36	\$2.37
Cotton, daily price (middling, 1 in., 14 designated markets, lb.).....	**30.56¢	34.93¢	33.15¢	33.17¢	33.31¢
Wool tops (Boston, lb.).....	\$1.51	\$1.72	\$2.10	\$2.20	\$2.23

FINANCE

90 stocks, price index (Standard & Poor's).....	135.7	354.4	370.5	368.9	368.6
Medium grade corporate bond yield (Baa issues, Moody's).....	3.05%	3.61%	4.34%	4.44%	4.47%
Prime commercial paper, 4 to 6 months, N. Y. City (prevailing rate).....	¾-1%	3%	3½%	3½%	3½%

BANKING (Millions of Dollars)

Demand deposits adjusted, reporting member banks.....	††45,820	58,384	56,745	†58,214	57,677
Total loans and investments, reporting member banks.....	††71,916	86,513	86,171	†87,925	87,639
Commercial and agricultural loans, reporting member banks.....	††9,299	26,643	30,480	†31,313	31,135
U. S. gov't guaranteed obligations held, reporting member banks.....	††49,879	29,957	25,820	†26,654	26,774
Total federal reserve credit outstanding.....	23,888	26,936	26,165	27,842	27,524

MONTHLY FIGURES OF THE WEEK

		1946 Average	Year Ago	Month Ago	Latest Month
Wholesale prices (U. S. Dept of Labor BLS, 1947-49 = 100).....	December.....	78.7	111.3	115.9	116.2
Private expenditures for new construction (in millions).....	December.....	\$803	\$2,435	\$2,666	\$2,472
Public expenditures for new construction (in millions).....	December.....	\$197	\$823	\$1,134	\$898
Personal income (seasonally adjusted, in billions).....	November.....	\$178.0	\$314.5	\$332.5	\$333.6
Farm income (seasonally adjusted, in billions).....	November.....	\$16.9	\$15.1	\$16.2	\$15.9
Consumer credit outstanding (in millions).....	November.....	\$6,704	\$37,114	\$40,196	\$40,631
Installment credit outstanding (in millions).....	November.....	\$3,174	\$28,269	\$30,811	\$31,024
Manufacturers' inventories (seasonally adjusted, in billions).....	November.....	\$21.3	\$45.7	\$50.8	\$51.3
Wholesalers' inventories (seasonally adjusted, in billions).....	November.....	\$5.5	\$12.3	\$13.1	\$13.2

* Preliminary, week ended January 5, 1957.
† Revised.

†† Estimate.
‡ Ten designated markets, middling ½ in.

§ Data for 'Latest Week' on each series on request.

THE PICTURES—J. Ablett—30 (bot. rt.), 31 (top); Allegheny Ludlum Corp.—80, 81; Jon Brenneis—143 (top & bot. rt.), 144 (top); Grant Compton—43, 123; Gen'l Motors Corp.—166, 167; INP—128; Herb Kratovich—43, 76, 94, 123; Mac Bannell—32; Leonard Nadel—142 (lt.), 143 (bot. lt.), 144 (bot.); Bob Phillips—23, 24, 25, 27, 28; Phoenix Rhenrohr—124; Mike Shea (cover); Standard Oil Calif.—58; Star Newspaper Service—30 (top lt.); Gordon E. Thiele—32; U. S. Army—97; W W—109.

The Trust You Have Placed in Us



FREDERICK R. KAPPEL, President
American Telephone and Telegraph Company



"The telephone business is built on the idea of Service.... And the principles that guide our work affect the lives of many people. We are printing them here because they seem important to everyone who uses the telephone, everyone who works for the business, and everyone who has invested in it."

We in the telephone business are servants of the public. The services we perform are necessary to the people of the United States. They are necessary to the building of our nation and to our national security. Clearly, we occupy a position of great public trust.

We are also trustees for the savings of every individual who has put money in the business. It is our responsibility that the business shall prosper.

We think it all-important therefore that we furnish the best telephone service it is in our power to provide—a service high in value and steadily improving—at a cost to the user that will always be as low as possible and at the same time keep the business in good financial health.

The success of the business depends on the people in it. To serve well and prosper, Bell Telephone Companies must attract and keep capable employees. They must be well paid and have opportunity to advance in accordance with ability. And we must continually develop first-rate leaders for the future.

Finally, it seems to us that it is always our duty to act for the long run. Sound financing, good earnings, reasonable and regular dividends—these are all long-term projects. So is our continual research to find better means for giving better service. So is the building of the human organization and character on which good service depends. So is the training of leaders. In all our undertakings, the long view is essential.

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when it's
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READERS REPORT

Marketing Furniture

Dear Sir:

Your article Design to Sell Furniture [BW—Dec.22'56,p51] was very accurate and perceptive. However, one quotation, that "mostly, it's the smaller store that is buying it," (page 52) may be subject to misunderstanding.

Actually, today more than half of Young Family's franchised dealers are in trading areas of over 500,000 population, and most . . . are large stores. A majority are department stores, including many of the biggest in the country.

However, in trading areas under a quarter million population, Young Family dealers are predominantly furniture stores. Since our current marketing effort is now turning toward several hundred of these areas, the smaller furniture stores are developing considerable importance in a plan originally designed for department store use.

PERRY MEYERS

VICE-PRESIDENT
 YOUNG FAMILY, INC.
 NEW YORK, N. Y.

Not "Another Charity"

Dear Sir:

Understandably, the American Heart Assn. and its fifty-six affiliated Heart Associations are eager to present their case to businessmen of the nation . . . when corporations are still in the process of formulating their 1957 philanthropy budgets. . . .

In 1947, there was 14,371 work stoppages, involving 116-million man days idle. This was more than double normal. In other recent years, the man days idle have ranged from a low 4,183,000 (1953) to a high of 59,100,000 (1952). (Source: Bureau of Labor Statistics, U. S. Dept. of Labor.)

In 1955, on-the-job accidents resulted in the loss of 235-million man days. (Source: National Safety Council.)

As against the above figures, our estimates are that diseases of the heart and circulation are responsible for 150-million man days of unemployment, year in and year out.

Thus, we believe, it may be logically concluded that the heart diseases have long since surpassed strikes as a prime source of lost productivity. It may also be concluded that these diseases are responsible for at least three-fifths as



The first step towards reducing your

American's Distribution Consultant

MODERN distribution encompasses far more than transportation! It includes *all* of the steps required to move your wares from assembly line to consumer—handling, insurance, finance, packing, inventory, warehousing, and marketing.

Combined, these various steps represent the biggest single cost of doing business today. According to an extensive study made by the Twentieth Century Fund, distribution accounts for 59¢ of the consumer's

dollar, compared to only 41¢ for production costs.

Of all the components of distribution, transportation is one of the most critical. In many cases, the method of transportation helps define the requirements of the other factors; i.e., inventory size is frequently determined by the time required to ship replacements from your supplier to your warehouse.

For this reason, airfreight—when applicable—can greatly streamline distribution based on the slower



greatest single cost of doing business today

Service for Management



schedules of surface transports. Distribution by air can reduce warehousing, cut pipeline inventory, and multiply inventory turns. In addition, it can increase sales by opening new markets and improving service to existing outlets.

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Such a study can now be made by American's new Distribution Consultant Service with the co-operation of management. If you would like to explore the potential benefits of distribution by air, write to American Airlines, Inc., Distribution Consultant Service, 100 Park Ave., New York 17, N.Y.—or call your nearest American Airlines Airfreight office.

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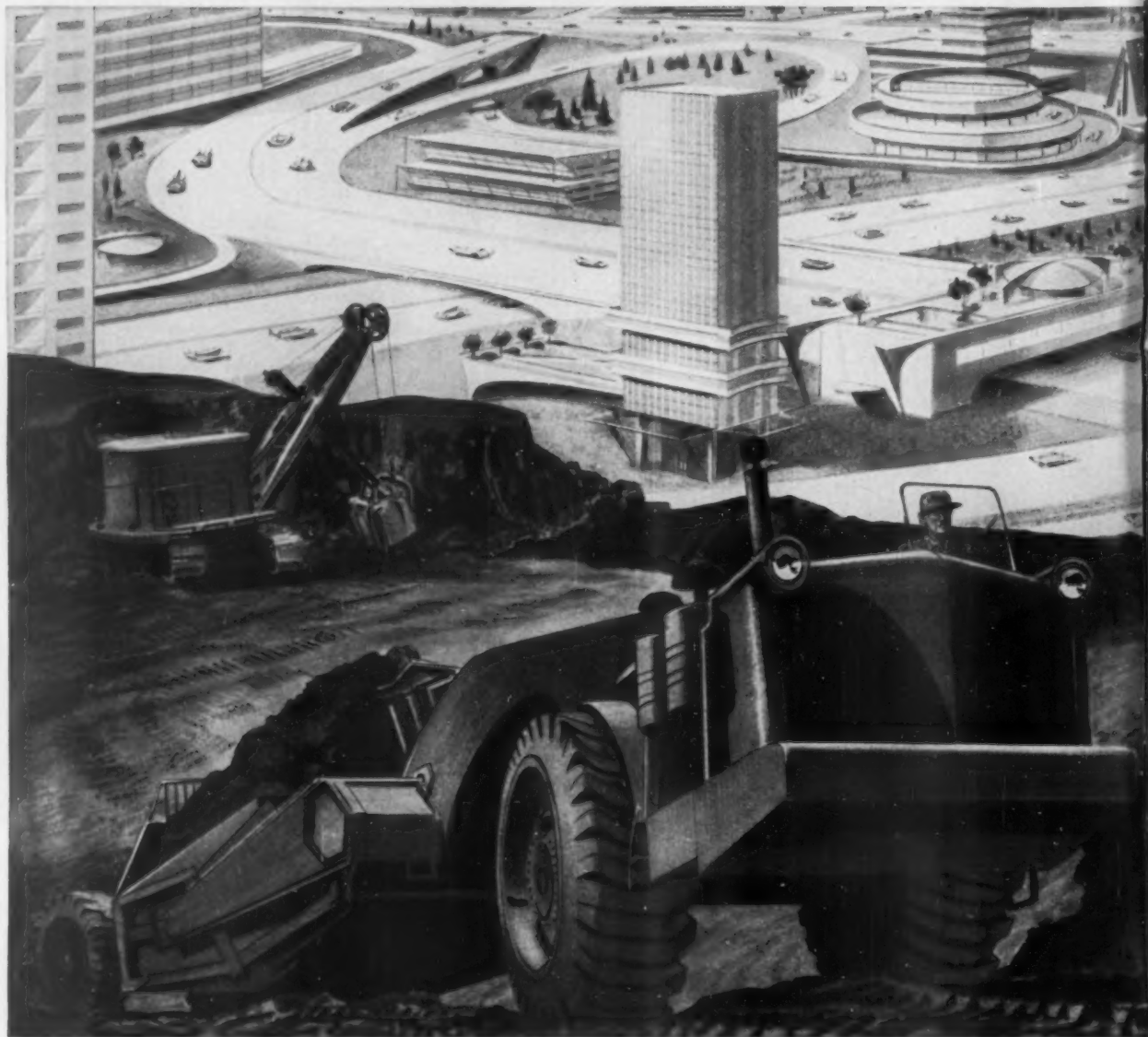
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“Operation Facelift” is underway — speeding today’s byways into tomorrow’s highways. And, pitting giant muscles against this tremendous task is the newest road-building equipment. For modern machines are the key to modern roads.

The *most modern* of these giant road-building

machines have one point in common — TORQMATIC DRIVE. For manufacturers and contractors alike find TORQMATIC equipment works faster from first cut to final paving. TORQMATIC Converters match engine power to load demand — multiply torque for bigger “bites” with less strain. TORQMATIC Transmissions provide continuous full-power shifting—forward and reverse — for quicker completion of every job. And, TORQMATIC DRIVES make every machine easier to operate, reducing the need for extensive operator training.

122 kinds of construction equipment built by 55 different manufacturers are *now* available with



byways into highways

TORQMATIC DRIVE. You'll see many of them on display at the ARBA Show in Chicago. And, we'll be looking for you at the Allison TORQMATIC Display, too, where we'll show you how TORQMATIC DRIVES can give your equipment *new utility—new efficiency—*

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"JOB-FITTED COMBINATION SCRUBBER-VAC

PUTS FLOOR-CLEANING ON PRODUCTION BASIS

throughout our plant"



**—Says Superintendent of Maintenance
VICTOR ADDING MACHINE COMPANY**

Victor Adding Machine Company, Chicago, insists on maximum production in floor-cleaning as well as in manufacturing. Like other production-wise industrial concerns, Victor cleans floors with a Job-Fitted Combination Scrubber-Vac! This single unit



Completely Mechanizes Scrubbing

—applies the cleanser, scrubs, flushes if required, and picks up (damp-dries the floor) — *all in one operation!* Job-fitted to specific needs, a *Scrubber-Vac* provides maximum brush coverage. Model 213P shown in illustrations at left, for heavy duty scrubbing of large-area floors, has a 26-inch brush spread. Cleans up to 8,750 sq. ft. per hour (and more in some cases), depending upon condition of the floors, congestion, et cetera. (The machine can be leased or purchased.) *Finnell* makes a full range of sizes, and self-powered as well as electric models. From this complete line, you can choose the *Scrubber-Vac* that will put your floor-cleaning on a production basis and reduce labor costs. Maintenance men like the convenience of working with this *all-in-one* unit. The machine is self-propelled, and there are no switches to set for *fast* or *slow*—slight pressure of the hand on clutch lever adjusts speed to desired rate.



It's also good to know that a *Finnell Floor Specialist and Engineer* is nearby to help train your operators in the proper use of *Finnell Equipment* and to make periodic check-ups. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or *Finnell System, Inc.*, 3801 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

*Originators of
Power Scrubbing and Polishing Machines*



BRANCHES
IN ALL
PRINCIPAL
CITIES

much lost time as are industrial accidents.

Beyond this, there remains the fact that diseases of the heart and circulation are responsible for more than 800,000 deaths in the U.S. yearly, or 53% of all deaths, while affecting an estimated 10-million Americans (1 in 16). It is interesting to note that 232,260 of the 810,000 who died of heart and circulatory disease in 1955 (latest available figures from the National Office of Vital Statistics) were under the so-called "retirement" age of 65.

According to our best estimates, moreover, diseases of the heart and circulation cause an annual economic loss of \$2.5-billion and cost the nation more than \$300-million in federal tax income from lost earnings. Certainly, they rob industry and government of trained men during their most useful years. They deplete our manpower of skilled employees and are responsible for tremendous labor turnover and time-loss.

In light of the foregoing facts, we believe that American business has valid reason to look upon the Heart Fund as a sound and prudent investment rather than as "just another charity. . ."

M. FREDERICK ARKUS
PUBLIC RELATIONS COUNSEL
AMERICAN HEART ASSN., INC.
NEW YORK, N. Y.

Keeping Christmas

Dear Sir:

As the trade association for the industry of remembrance advertising and business gifts, we hasten to protest your Trend Remember Hungary [BW—Dec. 8 '56, p. 200]. . . .

There is all too little of the personal touch in business today . . .

We agree that sometimes far too little thought is given to the purchase of business gifts and that sometimes money is wasted . . . [but] your suggestion of giving to charity in the name of a business firm leaves out the personal touch. . . . In these days when the giving of money to charity and to educational funds is made so easy by the tax structure, I don't think that the man in whose name you gave \$10 to your own favorite charity or educational institution would feel that you had sincerely remembered him. . . .

RALPH B. THOMAS
EXECUTIVE DIRECTOR
ADVERTISING SPECIALTY
NATIONAL ASSN.
WASHINGTON, D. C.

This is a foreman dressing for work!



Time was when Pete wore the grubbiest work clothes he could find. He *had* to — with all the trouble-shooting he did. And as production fell behind he sometimes even had to fill in on a machine. What a waste of a good foreman!

Today, you'll find Pete in a white shirt — and tie. No longer does he do other men's work. Now he's the real right hand his management needs and wants.

The Keysort Plant Control Plan made the difference. PCP now helps Pete and his management plan *in advance*, reports performance at every stage. Man-hours are

used more profitably . . . and experienced foremen like Pete are free to concentrate on supervision, work assignments, production flow. Without extra bookkeeping, without having to pitch in themselves.

The Keysort Plant Control Plan can supply every fact you need for production and cost control. Plus the *on time*, accurate reports that provide a regular check on performance. Monthly, weekly, daily—as your needs require. At remarkably low cost.

The nearby McBee man has a presentation which will show you how it's done. Phone him, or write us.

McBEE



KEYSORT

Punched-card accounting for any business

Manufactured exclusively by The McBee Company, Athens, Ohio • Division of Royal McBee Corporation
Offices in principal cities • In Canada: The McBee Company, Ltd., 179 Bartley Drive, Toronto 16, Ontario

MICRO SWITCH . . . FIRST IN PRECISION SWITCHING



MICRO SWITCH Precision Switches DO A DUAL JOB for many manufacturers

MICRO SWITCH precision switches do a big job in small space. They serve manufacturers in a dual capacity because they are compact and light in weight; rugged and reliable; long-lived, precise, with high electrical capacity and accurate repeatability of point of operation.

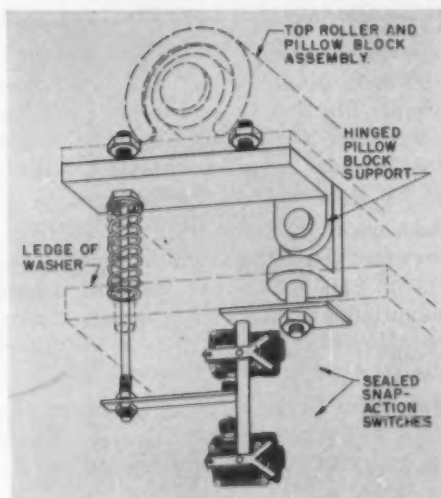
FIRST, they are being used by thousands of manufacturers to make existing production equipment more automatic, more productive and safer with small investment. (see below.) Plant operating men may call any authorized MICRO SWITCH Distributor for help in choosing the right switch or switches for their purpose. They will find distributors listed in the Yellow Pages under "Switches, Electric."

For additional information, plant operating men should send for MICRO Tips Digest and Catalog 101.

SECOND, MICRO SWITCH precision switches perform fantastic control functions in every conceivable type of product. There is hardly a product involving simple or complex circuitry in which they are not a part of the original design—from apple sorters to nuclear reactors; from airborne computers to missiles.

To all of the products in which they are used (see column right), they add greater reliability, faster operation, longer life and freedom from costly servicing.

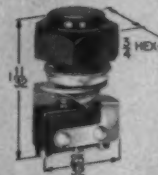
For the full story, have your design engineer write for Catalog 83.



A textile manufacturer struggled to find a means to avoid time-consuming "thread-outs" and roller-bending "lap-outs" on a continuous process bleaching and dyeing machine. His plant operating man solved the problem. Two MICRO SWITCH sealed switches are positioned to give the desired cloth tension actuations—operated by a stop motion on one of the top idler rollers. A breakout releases cloth tension, brings the actuation arm against the top switch. Excessive tension releases springs and actuates bottom switch. Actuation of either switch stops the machine.

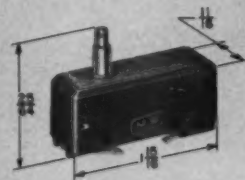
A highly experienced corps of plant and field engineers operating from many branch offices, supplemented by MICRO SWITCH distributors throughout the country, provides a superlative switching service.

THREE EXAMPLES OF HOW MICRO SWITCH PRECISION SWITCHES MAKE FOR BETTER PRODUCT DESIGN

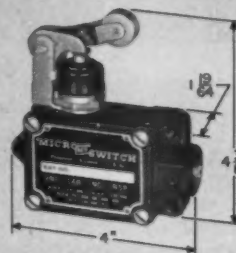


This MICRO SWITCH "PB" series push button subminiature switch is outstanding. It is built into the end of two hand levers by a well-known machine tool company.

It was selected because it is sealed to prevent entrance of dirt and moisture and can be wired first, then easily snapped into place. Though small in size, "PB" series switches are rugged, reliable and precise in operation for heavy machines and other equipment.



Because of its high repeat accuracy, positive action and long cycle life, this switch was specified because it provided absolute repeat accuracy of point of operation in a bowling pin setter.



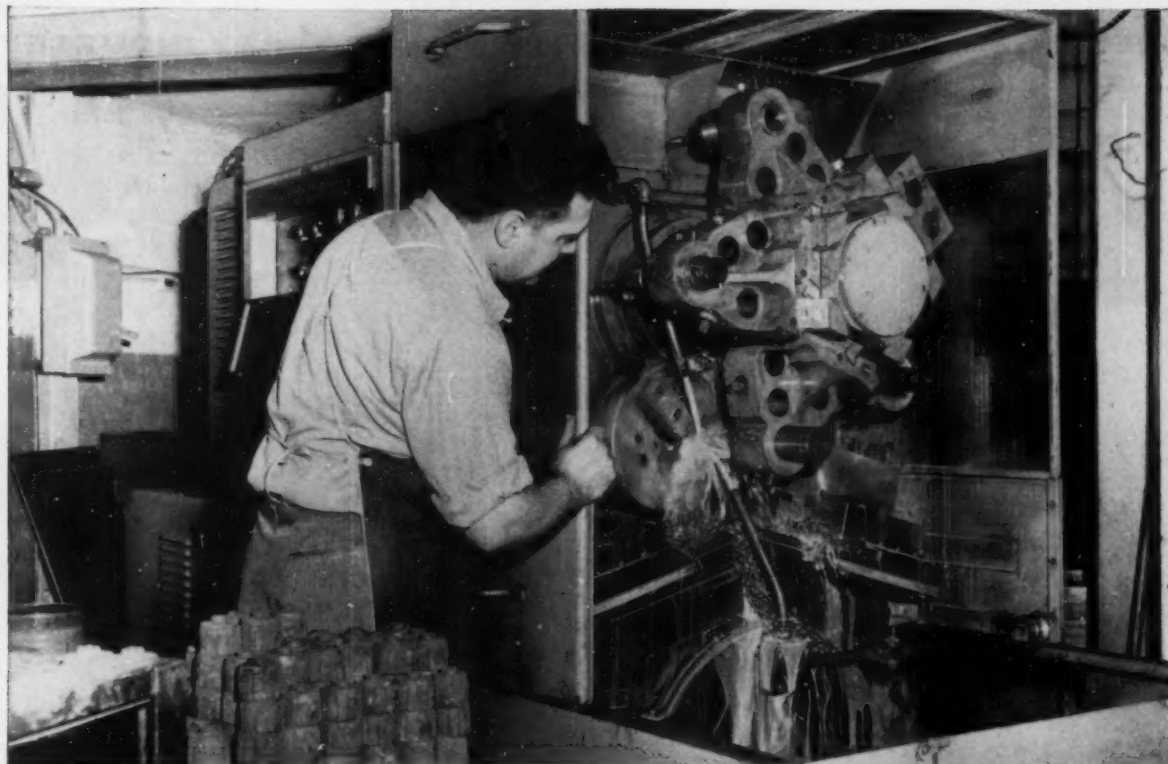
Because the manufacturer of a line of woodwork production equipment required switches as part of his design that would take a lot of punishment and retain their accuracy, he selected two of these switches which must operate with maximum accuracy, give lifelong performance at an average of 1,250 strokes per hour. These switches are activated 10,000 times in the average workday.

MICRO SWITCH

A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS





If this isn't the world's best investment—what is?

HIGHLY PRODUCTIVE machine tools have long been recognized as one of the best investments any metalworking company can make.

And when a standard-designed machine tool pays for itself in less than a year, it's an investment that's hard to beat!

Two Warner & Swasey 2 AC Automatics did just that for The Thew Shovel Company, Lorain, Ohio. They turned in cost savings from 47% to 77% machining 38 different cast and forged steel parts for Lorain power shovels and cranes. Annual dollar savings exceeded the cost of both machines plus tooling!

Lot sizes averaged about 200 pieces—ranging from 36 to 2,000—demonstrating the fast setup features of these Warner & Swasey Automatics. Their simplicity of operation permits grouping machines so each 2 AC operator can also handle second operation work on adjacent turret lathes—an additional saving not included in the figures above.

On many jobs in your own plant—some you may think of as strictly "turret lathe jobs"—Warner & Swasey Single Spindle Automatics can speed production, cut floor-to-floor time, and slash machining costs. Our Field Representative will be glad to show you exactly how!

**WARNER
&
SWASEY**

Cleveland

PRECISION
MACHINERY
SINCE 1880

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS...WITH A WARNER & SWASEY

DENISON HYDRAULIC POWER WORKS FOR EVERY INDUSTRY



Small lot production of intricate electronic parts is performed quickly and economically on this Denison hydraulic Multipress.

High-speed remedy for a production headache

How Multipress solved a complicated assembly job for General Radio

How would you plan production setups for a company that averages a new, complex electronic instrument every month, in production lots ranging from 50 to 100,000 units?

That's just one of the problems facing General Radio Company of Cambridge, Mass., a leading designer and manufacturer of electronic test equipment.

This manufacturer met the test with Denison's versatile hydraulic Multipress. Capable of automatic operation on volume runs, yet efficient when manually operated for small lots, Multipress performs a variety of jobs on different types of materials. Reduced costs, maximum operator safety, and complete uniformity of finished product are three direct benefits.

Consult a Denison hydraulic specialist about your production problems. Write Denison Engineering Division, American Brake Shoe Company, 1178 Dublin Road, Columbus 16, Ohio.



HYDRAULIC PRESSES • PUMPS • MOTORS • CONTROLS

There are sound business reasons for

Background Music

In factories and offices music relieves tension, minimizes fatigue, increases production. In stores and shops music creates a friendly atmosphere, puts people in a mood to buy.

Your business can enjoy these acknowledged benefits easily and economically with a Seeburg Background Music System. That's because it makes no difference where your business is located. If electricity is available, so is Seeburg Music.

The Seeburg Plan provides for supplying all the high fidelity equipment—the remarkable Select-O-Matic (with a capacity of 600 selections on 45 RPM records), microphone and speakers—under a lease-purchase agreement whereby nominal monthly payments apply toward your eventual ownership.

The Seeburg Music is scientifically programmed for background music use. A small monthly fee includes replacement of 150 selections per month and all ASCAP/BMI performance fees.



in factories



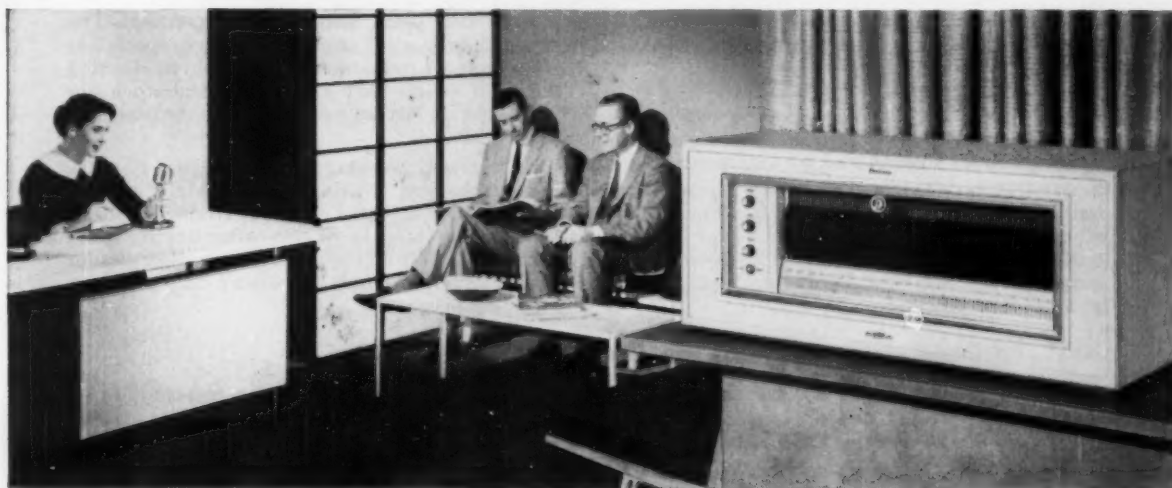
in banks, offices, S. & L. assn's



in stores, shopping centers



in clubs, hotels, fraternities



Completely Automatic, The Select-O-Matic is furnished as the Library Unit (as shown) or as the Custom Unit for built-in installations. The paging and announcement microphone adds great utility at no extra cost. **Mail the coupon.**

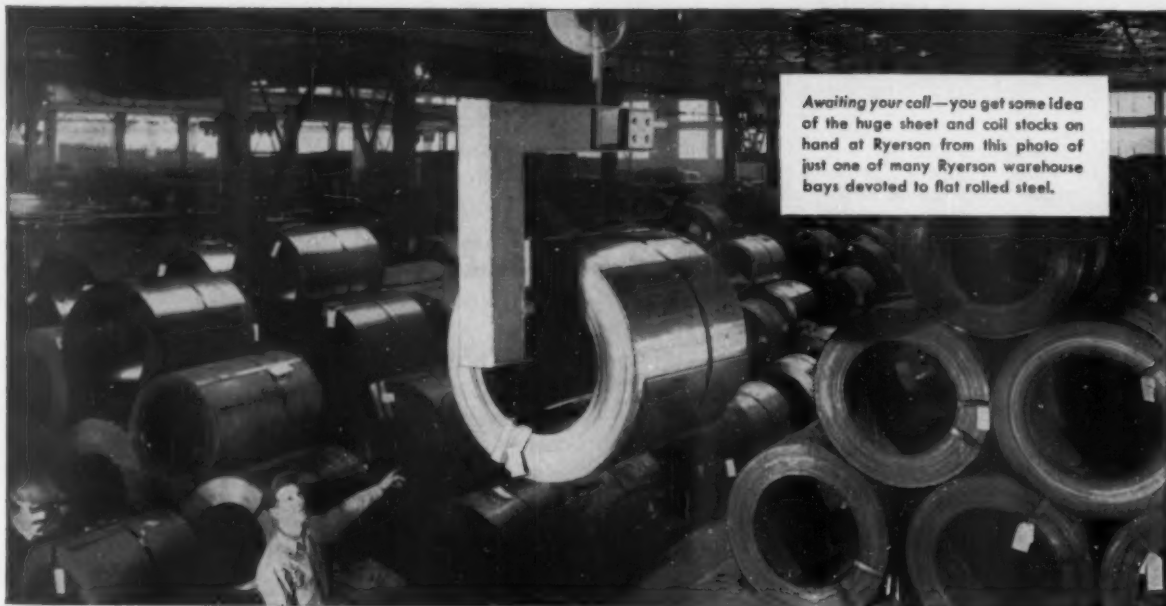
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SEEBURG MUSIC LIBRARY, INC.

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Please send information on Seeburg Music systems
Our facilities () include a sound system
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Company.....
Address.....
City..... Zone..... State.....



Awaiting your call—you get some idea of the huge sheet and coil stocks on hand at Ryerson from this photo of just one of many Ryerson warehouse bays devoted to flat rolled steel.

On sheet and strip requirements... are **YOU** getting this 3-point service?

Sheet and strip buyers tell us that three kinds of purchasing help keep them coming back to Ryerson:

1. WIDER SELECTION OF TYPES—More than 20 kinds of sheet and coil stock are on hand in an unusually wide range of gauges—making it easier to get the exact steel needed for any requirement.

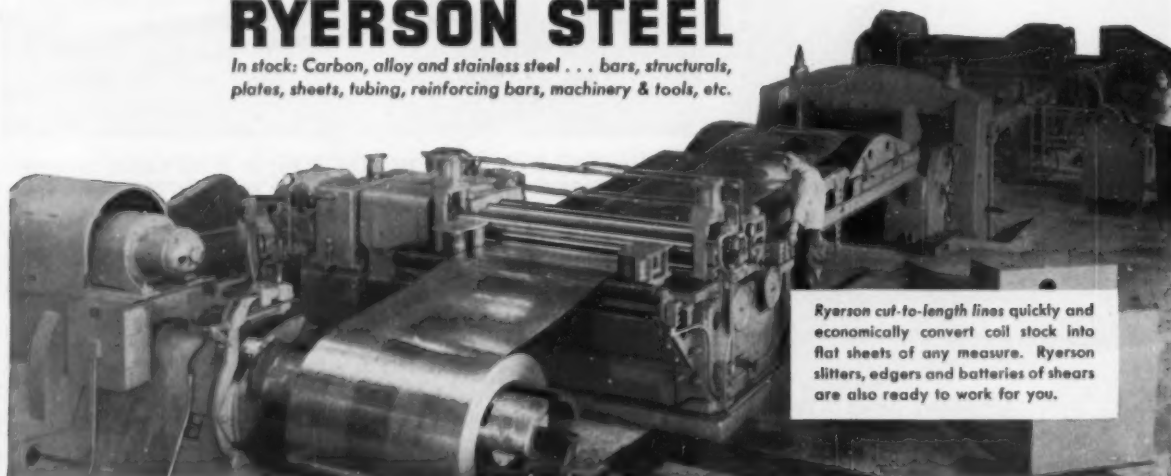
2. GREATER PROCESSING CAPACITY—The most extensive cutting and processing facilities in the steel-service industry enable buyers to get quickest service on requirements for special sizes, strip and sketch cutting, blanks, slit coils, edging, or any other processing.

3. HELP ON SHEET AND STRIP PROBLEMS—The large Ryerson staff of sheet and strip specialists gives buyers a valuable source of help in selecting the most satisfactory and economical stock—or in solving any other problem of application and fabrication.

In addition, sheet and strip buyers like the good packaging, the dependable weight and on-schedule delivery that they get from Ryerson—and the convenience of one-order buying of all steel products from the same source. So call your nearby Ryerson plant for 3-way help on sheet and strip needs.

RYERSON STEEL

In stock: Carbon, alloy and stainless steel . . . bars, structurals, plates, sheets, tubing, reinforcing bars, machinery & tools, etc.



Ryerson cut-to-length lines quickly and economically convert coil stock into flat sheets of any measure. Ryerson slitters, edgers and batteries of shears are also ready to work for you.

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BUSINESS OUTLOOK

BUSINESS WEEK

JAN. 12, 1957



Those 1957 cars just haven't lived up to expectations so far.

Maybe that's because too much was expected of them. Perhaps, too, it reflects higher prices and the fact that buyers find dealers less willing to dicker than during most of the last two years.

Whatever the reasons, Detroit is moving cautiously. And Wall Street's enthusiasm for auto company shares has been ebbing visibly.

Don't blame Detroit for playing close to the vest at this point:

- First and foremost, of course, everyone is waiting on sales. The answer on that score won't be fully clear until March. You just can't judge the season accurately from dead-of-winter demand.
- Meanwhile, nobody wants a rerun on last year's early overproduction and sales rat race. This is particularly true with a new and little understood federal statute on the books designed to protect dealers.
- Finally, there are labor problems. If output should be pushed too high and then slump, there would be a matter of unemployment benefits this year not to mention complications on a new 1958 contract.

When people talk of the new-model year's "slow start," they should also remember that their standard of comparison could be unfair.

New models have got away faster in only two other years—and in one of those it was a mistake. The 1955's went roaring off and never stopped; the 1956's started even louder, then lapsed to a whisper.

Actually, almost 600,000 cars were turned out in December. That was short of 1954 and 1955 but better than any earlier December.

Auto makers have scheduled 1.8-million-plus passenger cars for the first quarter—a rate only a little above December's but high enough to make this the best initial quarter for any year but one.

Moreover, the industry easily can top this goal by several hundred thousand if sales reports call for it any time soon.

A year ago now, in fact, the first quarter goal was 2.3-million. That quickly faded as sales prospects dimmed, but, even so, the 1¾-million finally realized in last year's first quarter was second highest for the period (exceeded only by 1955's 2,130,000).

Fatter profit margins for auto dealers, as things stack up, are the biggest plus resulting from the lag in factory output. Cars still aren't so plentiful that dealers have to shade list prices deeply.

Meanwhile, turnover is fast enough to satisfy most dealers even if steel producers and parts suppliers may feel a bit let down.

—•—

Companies needing capital—and only the fortunate few do not—now face the highest interest costs in 20 to 25 years.

It is a buyers' market; investors can call the tune.

Credit is a little more plentiful, to be sure. But a veritable flood of new issues is competing for the loose money. Bond men simply can't afford to cater to borrowers for fear of "going to bed" with overpriced financial merchandise.

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK

JAN. 12, 1957

This will give you an idea how far the rent on money has risen:

- A Bell System subsidiary's debentures went on the market this week at a price that returns the investor 4.6% annually (the highest for any such security since 1929).
- An electric utility operating company's debentures sold at 4½% (the highest for a comparable issue since 1934).

In the long-term market, this is one time when it can truly be said that **demand for funds rather than Federal Reserve policy** is making money dear.

Interest rates would be softening but for borrowers' eagerness.

The Fed, if anything, has let things ease a bit. It made money available for seasonal needs before Christmas (which was a "neutral" policy). In reversing the process now that the peak of seasonal demand is past it has used a gentle hand so far.

You might have thought (watching the slide in Treasury bonds that culminated in a long list of new lows on Monday) that the Federal Reserve was ready to tighten up again.

But technical considerations, peculiar to this market at this time of year, doubtless played a part in recent price movements. And, most significantly, prices finally began to perk up on Tuesday.

The recovery probably means that **the Fed will maintain a hands-off policy at least until the shape of 1957 business becomes clearer.**

—•—

Auto buyers added only a little over \$1-billion to their **installment debt** in 1956 compared with \$3.8-billion the year before. But **less appetite for cars** rather than tight money probably was the reason.

Higher repayments, in meeting the huge debt contracted in 1955, also tended to slow the growth in this lien on income.

Meanwhile there's little indication that any pinch was being felt on consumer incomes, for, though their borrowings to buy autos grew much less rapidly than in 1955, they were **going into debt almost as heavily to buy other durable goods** as they had the year before.

One place where consumers certainly found credit plentiful was **at the small-loan counter.** These monthly payment personal loans not only rose to a new peak above \$7-billion, but their 1956 jump of some \$950-million was the **largest for any year on record.**

There was a time, not too many years ago, when the economic theorist figured such loans were the last resort of the little man.

Postwar experience, however, rules that out once and for all. During the unprecedented prosperity of the 1950's, personal loans have gone from \$2.4-billion to about \$7.2-billion.

—•—

This is the time of year for the **steel industry's annual statistical quirk.** Output this week was just over 2½-million tons at 98.3% of capacity; a month ago, output was the same at 102% of capacity.

This, of course, simply gives effect to addition of 5-million tons of capacity from the start of 1956 to 1957.



A \$32,000,000 TREASURE HUNT FOR SUBMARINE ASBESTOS

Black Lake in Quebec covers a treasure much more valuable than the legendary loot of Captain Kidd. Beneath 200 feet of water lie some of the richest deposits of high-quality chrysotile asbestos in the Western Hemisphere.

American industry needs asbestos, but few companies have the experience to mine it under the topographical difficulties presented by the Black Lake area. Lake Asbestos of Quebec, Ltd., a wholly owned subsidiary of American Smelting and Refining Company, is now developing these ore bodies and building a modern asbestos fibre mill to handle their output.

Black Lake is being drained; rivers and highways are being relocated, and open-pit mines, eventually as much as 500 feet below the old lake surface, will be in operation by 1958. The investment will total \$32,000,000. Known deposits assure a source of supply for at least 40 years.

ASARCO has established special asbestos research facilities at its Central Research Laboratory at South Plainfield, N. J. If you use or may be able to use these mineral fibres in your manufacturing operations, we will be happy to work closely with you to help you find the most practical and economical applications.

AMERICAN SMELTING AND REFINING COMPANY

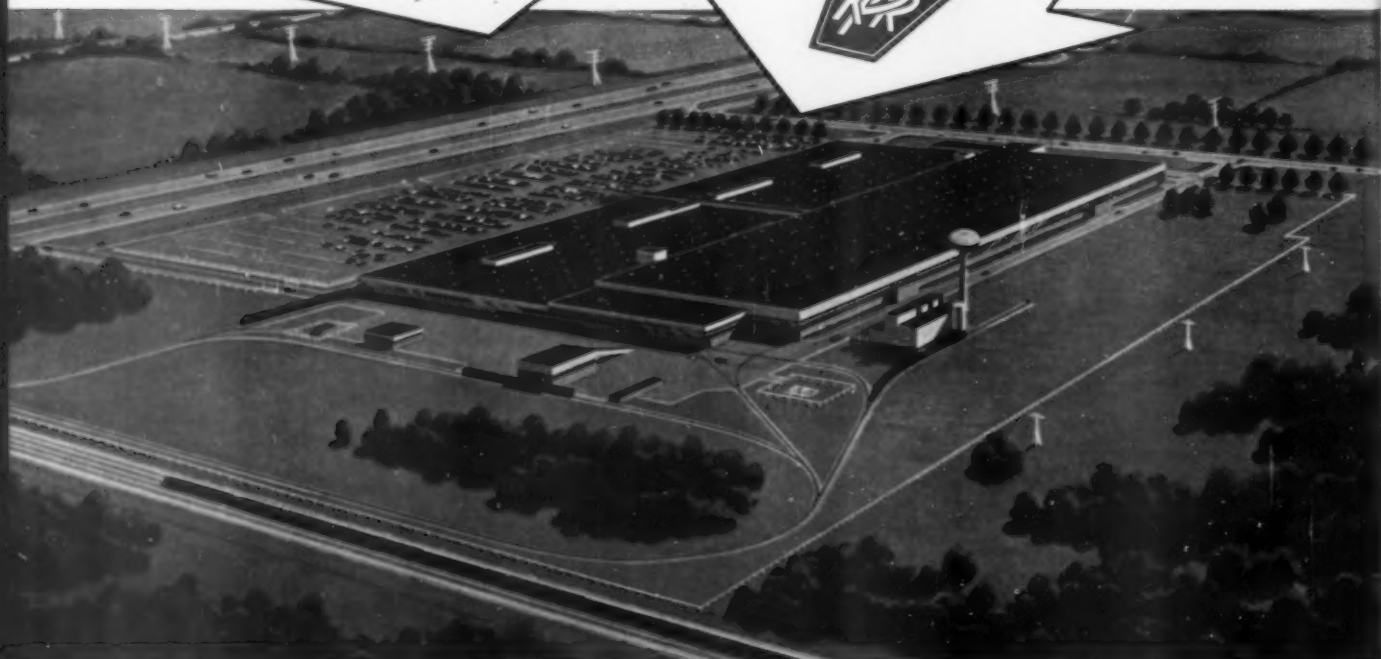
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**Foresight
by
Chrysler**



**Plant Site
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PRR**



In locating Chrysler Corporation's new press plant at Twinsburg, Ohio, PRR extended virtually the full range of its site-location services to this great industry leader.

Spur facilities and a classification yard designed by PRR specialists will help expedite the flow of vital steel stock to the plant from strategically close sources at Cleveland, Pittsburgh and Buffalo.

PRR's industrial development services have helped Chrysler open the door to

new opportunities in Ohio . . . can help locate your business in the heart of abundant resources, assist you in achieving local community cooperation, and place you within strategic reach of your important suppliers or points of distribution.

All of this is supplementary to the Pennsylvania Railroad's prime purpose . . . to supply you with the finest direct line transportation in America's most densely populated and richest markets.

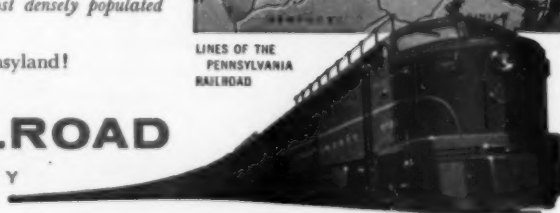
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R. W. GRIGG, Gen. Mgr., Industrial Development • D. B. LENNY, Asst. Gen. Mgr., Industrial Development, Sub. Sta. Bldg., Philadelphia 4, Pa., EVergreen 8-1000 Ext. 8011

Starting Congress on Its Way

Eisenhower set the wheels turning this week with his Middle East program (right) and later a domestic program.

THE MACHINERY of government picked up speed this week, sparked by Pres. Eisenhower's appeal to Congress for support of a new doctrine in U.S. relations with the Middle East (picture)

The Eisenhower doctrine of military guarantees and economic aid for the Middle East (page 137) dominated the first days of the new Congressional session, and set the tone for both Democratic and Republican party leaders.

• **Organizing**—But Washington's first interest—as always in the early days of a new Congress—is in the intricate, tradition-bound mechanics of the legislative process. Committee assignments (page 24) are all-important in the life of a lawmaker. Investigations range from highways (page 26) to atomic reactors (page 27) and the effects of Swiss watch imports on domestic industry (page 28).

Everything adds up to a session much like the others since Eisenhower became President. The basic political philosophy is middle-of-the-road, with Eisenhower as its living symbol.

• **Caution**—The same Democrats who are in charge of Congress are also those who most readily admit that in Eisenhower they are confronted with a major political phenomenon. They are afraid to be tagged as Eisenhower haters, or even as Eisenhower opponents, and this fear on their part stamps the new session with its fundamental characteristic. It will be moderately conservative, cautious, and eminently "safe."

On the domestic program there will be widening differences between Congress and the White House, of course. But the Eisenhower legislative package consists, in the main, of the same items that Democratic leaders are interested in, and there is no sign yet of an across-the-board Democratic refusal to follow the President's lead on the broad issues, as laid out this week in the State of the Union Message.



A New Democratic



PRESIDING OFFICERS symbolize divided government: Vice-Pres. Nixon, Republican, in the Senate and Sam Rayburn, Democrat, again Speaker of the House.



REP. JERE COOPER of Tennessee heads House Ways & Means Committee, influential in tax policy. He was in charge of Democratic committee assignments.

IN SENATE, ranking Republican Styles Bridges (far left in picture at right) lost in close vote for president pro tempore. Democrats with Lyndon Johnson (far right) as Majority Leader took control. In center of picture are parliamentarian Lew Deschler, Sen. William Knowland of California, and Sen. Karl Mundt of South Dakota.

AS PRESCRIBED by the statistics of last November's elections, the Democrats have organized the 85th Congress. Speaker of the House and Senate leader remain as before: Sam Rayburn and Lyndon Johnson. Committee chairmen, to a man, are senior Democrats, primarily from the South. Yet the organization of Congress for the next two years doesn't mean that the Democrats are prepared to wield the legislative power with assurance. It signifies only that they have a few more members than the Republicans—very few more, with a margin of only 15 in the House and a mere two in the Senate. (The GOP has some chance, through deaths or resignations, of gaining numerical superiority in the Senate before the 1958 elections.)

For one of few times in U.S. history, the opposition party is in control of Congress at the start of an Administration. But its leaders are awaiting a cue from the White House.

• **Split Opinion**—The Democrats are confronted with the results of the second greatest Presidential landslide since George Washington—only Franklin Roosevelt in 1936 topped Eisenhower's 1956 performance. Moreover, they are split among themselves as to their role for the next two years:

- To initiate and direct affairs of state, or
- To react to programs cooked up by the Republicans and bide their time until Eisenhower leaves the scene.

Last month, Democratic national headquarters seemed to favor the first course. It created an advisory policy committee including congressmen as

well as such leaders as Harry S. Truman and Adlai Stevenson. But Speaker Rayburn and Sen. Johnson chilled the idea.

Some younger members of the House tried again this week to put forward a Democratic program of legislation, but Rayburn, eight times Speaker of the House, and Johnson his pupil and fellow Texan, repeated their "wait and see" order.

• **Issues**—Only in matters of foreign affairs have Rayburn and his House floor leader, Rep. John McCormack (D-Mass.), taken a line of their own instead of merely reacting to the White House. They threatened this week to vote their own doctrine for the Middle East in place of the form requested by Pres. Eisenhower last Saturday (page 137). On two counts, the Rayburn-McCormack doctrine falls short of what Eisenhower wants:

- It doesn't give the President stand-by power to use troops.
- It doesn't provide special financial aid for the area.

However, in the field of domestic affairs, the Democratic leadership is leaving the initiative to Eisenhower. The Democrats could hardly write a program that all could subscribe to, even if they chose. They are split, North against South, on virtually every major domestic issue: integration, school aid, health insurance, labor laws, minimum wage, and so on.

Next to foreign policy, Washington sees civil rights as the most significant issue of the year—of the whole 85th Congress. And on this rock, fundamentalist Democrats split. Southerners, feeling pushed to the last ditch,



Congress Organizes Itself

are more adamant than ever against any federal action against what they prefer to call states' rights. Northerners, reading election returns that show Negroes and other minority groups moving back to the Republican column, are more insistent than ever.

Against this divided strength, the Administration—with any kind of adroitness—could win whatever legislative battles it chooses to fight.

• **Program So Far**—On Tuesday, the President and Republican leaders decided on a limited priority program of legislation. The list is short: renewal of the 52% corporate income tax and Korea-born excise taxes, a federal school construction program, a civil rights package, a study of juvenile delinquency, liberalization of immigration laws to meet the Hungarian refugee problem, a bill to permit corn farmers to plant more acres without losing price supports.

The old standbys will come up again: extended coverage of minimum wage and social security benefits; a not too enthusiastic movement to revise the Taft-Hartley law, particularly to meet the peculiar practices of the building trades; continued government buying of mortgages; further development of Western water and power resources.

• **Committee Assignments**—The one major obstacle to the Administration's program will be the makeup of the Congressional committees. In the curious mixture that the seniority system of Congress serves up, almost every committee chairman, except in foreign affairs, is an adversary of the Administration. Power of these chairmen is not

complete, but they will rule unless members who have White House backing force the issue.

• **Schools and Labor**—For example, Sen. Lister Hill (D-Ala.), chairman of Labor & Public Welfare, favors aid for school construction, but he wants a larger federal share than the Administration desires and he will oppose any non-discrimination clause. Sen. Strom Thurmond (D-S. C.) will also be a hold-out against any integration language.

Hill's committee is balanced in favor of Taft-Hartley repeal, but Thurmond again is strong the other way.

Rep. Graham Barden (D-N. C.) heads the House Education & Labor Committee. His opposition to federal aid to schools, primarily for fear of an anti-discrimination rider, will affect school legislation. He also opposes any substantive change in Taft-Hartley. Republicans on the committee were selected by House Minority Leader Joseph Martin for their belief in Taft-Hartley, but the older members have a record of opposing federal school aid—even the Administration's program.

• **Business and Taxes**—Sen. John J. Sparkman (D-Ala.) and Rep. Wright Patman (D-Tex.) are chairmen of the Small Business committees. Both approve the Republican plan to give the Small Business Administration more loan authority. Both are vehement in their criticism of Eisenhower for what they regard as favoring the big over the smalls.

Sen. Harry F. Byrd (D-Va.), chairman of the Senate Finance Committee, agrees with Treasury Secy. George M. Humphrey that general tax reduction

is out of the question now. However, Byrd also opposes the Administration's spending program and any spending for school construction.

The two appropriations committee chairmen—Sen. Carl Hayden (D-Ariz.) and Rep. Clarence Cannon (D-Mo.)—advocate spending for public works, but they oppose Eisenhower's partnership idea of power development. They will have a lot to say in the inevitable battle over who should build atomic power plants—private enterprise or the federal government.

Sen. J. William Fulbright (D-Ark.), chairman of the Senate Banking & Currency Committee, will be receptive to an Administration proposal for a broad inquiry into money and credit policy. But he will insist on equal representation by Congress in any monetary commission. He will also be an energetic critic of Administration policy toward the housing slump.

• **Foreign Affairs**—The President's request for a resolution giving him authority to commit troops in the Middle East got fast action from Rep. Thomas Gordon (D-Ill.), new chairman of the House Foreign Affairs Committee. Gordon didn't even wait to fill the five Democratic vacancies on his committee—giving the Republicans a temporary 15-12 edge—before he opened hearings with Secy. of State John Foster Dulles as his prize witness.

In the Senate, Theodore Francis Green, 89-year-old New Dealer from Rhode Island, succeeds to the chair in the Foreign Relations Committee. The committee will continue to support Eisenhower on major issues.



MINORITY LEADERS who will direct Administration program in the House are former Speaker Joseph Martin of Massachusetts (right foreground) and Rep. Leslie Arends of Illinois, next to him.



MAJORITY LEADERS in the Senate include such chairmen as, left to right, J. William Fulbright of Arkansas, John McClellan, also of Arkansas; Theodore Green of Rhode Island.



Investigating Road Plan

The nation's biggest public works program—the 13-year, \$28-billion federal aid highway plan—this week came under Congressional scrutiny. And right away, pressure was applied to make the program even bigger.

As it stands, the plan's primary aim is to cover the nation with a network of 41,000 miles of high-speed highways. Now, the Senate Public Works Roads Subcommittee keeps raising the question: "Shouldn't we build more—another 2,000 or 5,000 or 8,000 miles, perhaps?"

• **Six Months**—This week, officials from the Administration, the Bureau of Public Roads, and the state highway departments came before the subcommittee. Their purpose was to tell just how far the highway-building program has moved in the six months since Pres.

Eisenhower signed the plan into law. Their answers show the program is still only just beginning to take shape out where the dirt has to be moved: \$2.7-billion has been apportioned to the states from Washington for building the interstate system, and the states have matched this with \$270-million; plans for 743 miles, costing more than \$901-million, have been approved by the Bureau of Public Roads; the states themselves have let contracts for 496 miles of this, costing \$286-million. As for plans for the more distant future, Commerce Secy. Sinclair Weeks says that in 35 states some 37,000 miles of the interstate system have been "pretty well pinpointed."

• **More Mileage Proposed**—Last year, when the Senate passed the highway aid bill, it added 1,000 to the 40,000-mile

interstate system and asked each state to decide how it would use its share of the extra 1,000 miles. Now the states have put in their proposals, and they add up to a total of 12,500 miles. The Bureau of Public Roads is trying to whittle down these bids to one-twelfth their size.

Meanwhile, though, the Senate subcommittee headed by Sen. Abert Gore (D-Tenn.), one of the authors of the highway law, is asking witnesses such questions as: "Shouldn't South Dakota have a north-south highway linking it with its border states?" "Don't you think at least another 2,500 miles ought to be added?" and "Just how much extra mileage can be justified?"

So far, the subcommittee members—chiefly Sens. Gore, Robert F. Kerr (D-Okla.), and Francis Case (R-S.D.)—are getting little encouragement from the Administration to add to the 41,000-mile system.

• **Difficulties**—Already, some states are finding that it is going to be difficult enough for them to handle their share of the present program. Eight have told the State Highway Officials Assn. that they are not satisfied with the progress they're making. Another eight say they will need the benefit of new state taxes if they are to match federal aid funds on the 10%-to-90% ratio provided by the law. And another 24 say they, too, will need new tax money if they are to get work done on primary and secondary roads not included in the interstate system.

Policy problems still have to be settled in all or most of the states. One of the hottest of these is whether billboards should be allowed to encroach close to the edges of the highways. There is nothing in the Highway Act on this question, but Secy. Weeks said this week that there is "widespread feeling that advertising should be restricted . . . to preserve the natural landscape, and in the interest of highway safety." To do this, he said, would require additional legislation. Yet, all the time, the states are acquiring right of way for the new highways, and none has been buying easements in which billboards could be banned.

Most of the state highway planners believe they have licked one problem that scared them last year. This is their lack of engineering talent. Today, all but three state highway departments say they will be able to supplement their own engineering staffs with outside consultants. But this is a policy that the Public Roads Administration is doing its best to discourage. Paying outside consultants, says the bureau, adds heavily to costs.

Problems that trouble just about all the nation's industry affect the highway builders, too. Steel supplies are a bottleneck and some states are

being told that there will be a 20-month delay on delivery of orders.

- **Early Progress**—For all this, there is some progress chalked up for the highway program. Of the 496 miles of interstate highway put under contract for the last six months, two short stretches of road in Kansas have been finished and are already being used.

Texas leads in mileage under construction; at the end of last year, contractors were at work on 66 miles.

- **Industry's Preparations**—More important, industry is gearing itself to handle the demands for machinery and materials that will grow as the highway program gets further advanced. Road-making equipment manufacturers are expanding their production lines. Cement makers, who turned out about 316-million bbl. last year, expect to increase supplies to some 370-million bbl. this year.

Under Sen. Gore's leadership, it is expected that the Senate Roads Subcommittee will take a long and intensive look at the highway program, even though so little has been done yet under the new law.

- **Who Should Run Show?**—Gore himself has already made plain one of the chief targets of his inquiry: Should the program be run from Washington by a highway "czar" under the Commerce Dept. or should it be directed by a three-man highway administration independent of the Commerce Dept.

Last year, Gore plugged for the three-man administration, but he was forced to compromise on an administrator. Pres. Eisenhower nominated Bertram D. Tallamy, chairman of the New York State Thruway Authority, for the job.

Now Gore is questioning state highway department officials for their views on whether the program could best be run by someone like Tallamy, or by an independent board.

So far, there has been little talk about steeply rising construction costs for highway building, which gained 4.5% during 1956. The Bureau of Roads, under orders from Congress, is reviewing the total cost of the program, will stick at this task for another six months, and report to Congress a year from now. But already it is expected that increasing construction costs will push the tab for the interstate program well above the original estimate of \$28-billion.

- **Constant Review**—With so much ground to cover, Gore's hearings promise to last several weeks. But however long they last this year, the highway program is going to give Congress plenty of employment for the next decade. Says Gore: "This is the biggest public works program in the world. We'll review it at the beginning of every year, as long as I am chairman of the Committee."



Investigating Atom Power

This week the Atomic Energy Commission held its first public hearing to determine whether a private company should go ahead with its atom power project (BW—Jan. 5 '57, p91).

Power Reactor Development Co.—a combine of 23 utilities and industrial companies—brought forward a high-powered group of witnesses to combat union charges that (1) its proposed "fast breeder" reactor plant, just getting into construction at Monroe, Mich. (near Detroit) is unsafe; and (2) that it lacks the financial backing to complete the plant and operate it safely.

- **Test Case**—The hearing is a key one for all sides—for the three unions making the charges, for AEC, and for private industry. They all know that the way the hearing proceeds may set prece-

dents for future regulation of the burgeoning atomic industry by a government agency. As the hearing opened, AEC came up with a new demand on industry to build a number of reactors, and set June 30, 1962, as a deadline for having them in operation. Otherwise, AEC will ask Congress for funds so the commission can build them.

- **Unions' Charges**—The importance of the fast breeder is that it will produce more fuel than it consumes. Its success is considered necessary to the existence of a large atomic industry. PRDC's proposed \$43.2-million, 100,000 kw. project has been under fire for six months—ever since an AEC advisory committee report questioning the safety of the project was disclosed.

The hearing originally was called at

the request of the United Auto Workers, International Union of Electrical Workers, and United Paperworkers. The unions have no special labor axe to grind. Their ostensible position is that they own property nearby and fear the design is not yet proved safe. But the philosophic reason is more important: The unions want public construction of power reactors.

- **Illegal?**—Their charges were that AEC acted illegally in issuing a construction permit last August to PRDC for the proposed reactor because it is "inherently unsafe." They said further that PRDC has not shown that it is financially qualified to build a safe project.

AEC granted the request for hearing, but specified that the issues should deal only with the safety of the proposed project and the company's financial ability to undertake it. The commission would not allow any discussion of the legality of its own actions in issuing a construction permit—but this promises to become a lively issue, since this is the union's real target.

- **"Safety" Defense**—Scientists met head-on the unions' fears of large-scale contamination of the Detroit area by an explosion or runaway reactor. "It is impossible," said Dr. Hans A. Bethe, Cornell nuclear physicist, "that a reactor of this type could ever explode like an atomic bomb." Bethe was supported by Dr. Norman Hilberry of Argonne National Laboratory. According to Hilberry, there is "no credible possibility" that the reactor could be a bomb; experimental work now under way at Argonne and Los Alamos Scientific Laboratory will show that the "maximum" possible accident of the PRDC-type reactor could be contained. Both agreed that a "runaway reactor accident" could not happen with the PRDC reactor.

- **Financial Picture**—To refute charges that PRDC isn't equipped financially to build and operate the plant, Ernest R. Acker, president of Central Hudson Gas & Electric Corp. and chairman of PRDC's financial committee, spelled out the combine's financial resources:

- \$23.5-million in commitments from the 23 utility and industrial member companies, payable on call over a five-year period starting in 1956.

- \$15-million under a loan agreement with a combine including J. P. Morgan & Co. and Bankers Trust Co.

- \$7-million, deductible from the \$43.2-million total cost, representing value of research and development services furnished by Atomic Power Development Associates, Inc.

All this, says Acker, gives PRDC \$2.3-million in excess of the cost of the project. Counting in \$1.2-million working capital, PRDC would have \$3.5-million over estimated costs.



Investigating Watch Tariff

Domestic watch manufacturers were back in Washington this week, exploring a new path toward their goal of more tariff protection against their Swiss competition. They got a hearing (picture) from the Office of Defense Mobilization.

The new path is the so-called defense essentiality provision that Congress tacked on the trade agreements law in extending it last year. This allows a domestic industry to make its plea to ODM for quotas or higher duties on foreign competition, rather than renewing its traditional appeal to the Tariff Commission. The ground must be that the industry's health is essential to national defense.

U.S. watch manufacturers have claimed this for some time. In fact, their last successful drive for more tariff protection—in 1954—was based on the same argument.

- **Talk and Action**—ODM general counsel Charles H. Kendall took testimony from both sides—those seeking the new tariff rates (U.S. manufacturers) and those opposing a further trade restriction (importers)—as well as other interested parties. If ODM finds the

U.S. watch industry has documented its case, Defense Mobilizer Arthur S. Flemming will report findings to the President for further study and action.

- **Two Sides**—The U.S. watch people this week retold their side of the story. They claim that the skills required to make precision jeweled bearings and watch parts are also needed to turn out intricate military parts during wartime. They told ODM that Swiss imports threaten to cripple the U.S. watch business. Workers possessing special skills are being lost through forced layoffs, they said.

The importers argue that over-all trade relations with friendly allies are also important in time of war, that imports are not the only cause of a drop in sales of domestic watches. They also claim that there are other skilled workers besides watch company employees who can turn out precision instruments.

Testifying at this week's hearing were the American Watch Manufacturers Assn., Bulova Watch Co., Inc.; Clock & Watch Manufacturers Assn. of America, Inc.; American Watch Assn., Inc. (representing importers), and American Watch Workers Union.

The Price Crest Sweeps Higher

● Crude oil price goes up widely, as Humble makes the first move, and other majors follow.

● In newsprint, other Canadian producers are expected to follow Abitibi lead.

● In steel, lesser producers keep pecking away trying to push Big Steel into a general rise.

Major producers, beset by rising costs, have started off the New Year with a series of price boosts. Just last week, there were markups in the price of crude oil, newsprint, steel, and plywood. And businessmen, back at their desks for the first full week after the holiday hiatus, are reeling from the impact. For these latest advances, following on the heels of price hikes in nickel, cement, rail freight rates, and textiles, have made the pressure terrific.

Collectively, the increases reflect the growing tightness—in money, labor, and materials—that marks 1957's early days. Some economists say that producers now feel they must yield to the heavy upward pressure on prices in order to avoid another year of lean profits.

• **Crude Oil**—Individually, however, the price boosts mirror stresses within each industry involved. Thus, the break in oil prices initiated by Humble Oil & Refining Co. (page 58) followed three and a half years in which there had been no general advance in the price of crude.

During this same period, costs have skyrocketed. Wages have gone up 34¢ per hour and costs have risen stiffly for equipment, materials, and supplies that the oil industry purchases from others. Steel pipe, for instance, has gone up 35% in the three years.

Heavy demand for crude and its products was added to these pressures. The Suez crisis, forcing open new channels of distribution, has enabled oilmen to reduce the surpluses that threatened to depress prices. On top of that, the oil-to-Europe program has raised transportation and refinery costs by creating a scramble for supplies.

So, it was no surprise when, by mid-week, most oil companies followed Humble's boost of approximately 35¢ a bbl. for crude. And oilmen are calculating higher prices for refined products. This is how they figure: Heating oils, those used for home furnaces, will rise by 3¢ to 1¢ a gal. Heavy industrial fuel, for steelmaking, will rise by at least 42¢ a bbl., possibly more. Even gasoline will rise about 1¢ a gal., despite the fact that most refiners now have over-heavy stocks of gasoline; the increases

may prove temporary in some parts of the country.

• **Newsprint**—The newsprint industry also faces a new round of price increases following the \$4 per ton boost by Abitibi Power & Paper Co. effective Mar. 1 (BW—Jan. 5'56,p38). Abitibi's base price will be \$134 a ton delivered in New York.

Abitibi says the rise was due to increased costs, including higher freight rates. Canadian railways boosted their prices at the same time the Interstate Commerce Commission raised freight rates here by 7% for Eastern railways and by 5% for Western roads (BW—Dec. 22'56,p38). Abitibi spokesmen say the premium on the Canadian dollar, which reduces the earnings of Canadian companies from sales in the U. S., was another factor.

Since Abitibi turned out 800,000 tons of the 6.5-million tons of newsprint manufactured in Canada during 1956—the U. S. took 5.2-million tons of that—an industry-wide rise seems probable.

Like all newsprint price hikes, this one is bound to draw criticism. Publishers will be in a bind if other companies follow Abitibi's lead: They have no alternative but to accept it. Nearly all newsprint is sold on the basis of long-term contracts; the spot, or open market, is very small. Under these contracts, publishers could refuse to pay an increase and stop buying. But they wouldn't be able to buy enough newsprint in the open market to stay in business.

• **Southern U. S.**—The first sign of compliance with Abitibi's action will come from the other major Canadian producers. But reaction may also be forthcoming soon from U. S. producers, particularly Southern producers who have just cut their price from \$134 a ton to \$131 a ton. They did this by reducing the premium that Southern newspapers pay above the New York base price, under standards first set during World War II.

At that time, the country was divided into zones; newsprint suppliers could charge prices varying on distance from a set "Port of New York price"—regarded as the base. Under these rules,

International Paper Co. and the Bowater Southern Paper Corp. have been tacking the extra charge onto their base price.

• **Steel, Too**—Price boosts in other fields are aggravating the businessman's dilemma. Not the least is steel's piecemeal increases, where lesser producers seem to be trying to force the hand of big U. S. Steel.

The background is clear. Big Steel, with 31% of the capacity—and making every product that anyone in steel makes and in every producing region—is inevitably the price leader. The lesser producers have been getting uneasy about U. S. Steel's reluctance to raise prices except as a reflection of new labor contracts. They were particularly displeased at U. S. Steel's "low" price rise after last summer's contract.

The bite of costs is really hitting these lesser producers. And since no company is strong enough in all products and markets to force Big Steel to a broad general price increase against its will, the industry is trying to do the job piecemeal. Here's how:

Allegheny Ludlum, a major specialty producer, led off by boosting prices on several stainless grades from 1.75¢ a lb. to 6¢ a lb. U. S. Steel went along with that.

Armco Steel Corp. then raised extra charges on hot and cold-rolled sheets by about 3%.

Sharon Steel Corp., a large strip producer, raised extra charges on hot-rolled strip about 1%, with U. S. Steel following.

Bethlehem raised extra charges on plate and wide flange. It looks as if U. S. Steel will go along with this increase, too.

Inland has now raised the base price of plate and wide flange structurals about 5%. And the lesser producers are waiting anxiously for U. S. Steel's next move because it will test the giant's attitude on base prices, not extras.

Businessmen, meanwhile, have to keep their eyes peeled for other changes, too. Even the plywood industry, depressed for the past six months, is getting into the act. This week, the industry will add \$5 to the base price, making it \$72 per 1,000 bd. ft. The increase reflects two facts: (1) Buying is in a slight seasonal pickup, and (2) plywood producers can't stand too lean a fare.

But the industry still needs to create enough new markets to soak up the continually added capacity. In 1956, plywood production reached a record 5.2-billion sq. ft. But capacity for 1957 is judged at 6.3-billion sq. ft., quite a gap from production figures.



ISOLATED TOWNS mourned the loss of Canadian Pacific service. Leaside, above, is near Toronto and normally has a lively passenger business.

STALLED CARS stacked up by the acre in the Canadian Pacific's train yards (right) while consignees screamed for delivery.

STRANDED PASSENGERS switched to the strike-free Canadian National (below) whenever they had any choice—which wasn't often.





Canada Feels Impact Of Major Rail Strike

AFTER MORE THAN a week of strike throughout the 17,000-mi. Canadian Pacific Ry. system, Canada is willing to forget its boom and settle for mere survival during the winter.

The strike, led by locomotive firemen, is estimated to be costing Canada \$10-million a day. Major urban areas that are served by the only other major railroad, the government-owned Canadian National Railways, aren't suffering yet, but the hinterlands are in dire straits. Especially under the rigors of winter, they're the hardest to serve by road and air.

This is Canada's second tie-up of rail facilities in seven years, but the 1950 strike occurred in summer, when alternate transportation was more readily available.

- **Effect on U.S., Too**—Effects of the Canadian Pacific's dispute with the Canadian district of the Brotherhood of Locomotive Firemen & Enginemen don't stop at the border. Orders for strike action came from Cleveland headquarters of the BLFE, which is an AFL-CIO affiliate, on Jan. 3, and U.S. members of the union are vitally interested.

No one seems to know why the strike is timed right now, but the Canadian Pacific—largest privately owned railway empire in the world—has been insisting more and more firmly on the right to drop firemen helpers when engines in freight and yard service are converted to diesel. The road proposes to move these men to other jobs at salaries proportionate to their seniority.

U.S. railroads have gone through the same argument, though no major road has pushed the point so far as the Canadian Pacific. The firemen's union obviously sees the Canadian issue as a climax of a life-or-death fight in both countries. If Canadian Pacific should carry its point, U.S. roads—which are far more thoroughly dieselized than CPR—would be encouraged to press for the same concession.

- **Silent Partners**—So far, the giant Canadian Labor Congress, to which none of the Canadian railway unions belongs except the firemen's, has been strangely silent about supporting the strike. Many of its affiliated unions are, indeed, reported to be out of sympathy with it. Some look upon the firemen's stand as an attempt at featherbedding rather than a fight against "encroaching automation"; others feel it isn't



PICKETS stressed the safety angle. Union argues one-man operation of engines is dangerous, even in yards.

politic to arouse public antagonism against the labor movement.

The striking union is making the most of its safety argument. It contends that it is dangerous for one man to operate a diesel even at the low speeds used in freight yards. The Canadian Pacific points to one-man operation on dieselized British and European roads, but the union retorts that U.S. roads don't follow this practice. So the argument goes in circles.

The leading antagonists—in railroad and union—both came up the hard way from lowly railway jobs. CPR Pres. N. R. Crump wrote his college thesis on diesels at Purdue back in 1913, joined CPR in 1920 as a section hand. W. E. Gamble, Canadian vice-president of BFLE, started in as a Canadian National fireman in 1915.

- **Solution**—Ultimately, the strike deadlock will have to be shaken loose by the government, most Canadians think. But with a federal election coming up in the spring, the Liberals who are in power are reluctant to invoke the kind of compulsory arbitration that settled the last big strike in 1950.

- **At a Standstill**—As it stands now, Canada's production and shipment of such major commodities as wheat, newsprint, and coal have been slowed to a walk. Among the widespread effects:

- At Winnipeg and upper Great Lake ports, not a wheel is turning on 5,300 boxcars filled with 10-million bu. of wheat for export.

- Deliveries have been stopped by major mineral producers, such as International Nickel Co. at Sudbury, Ont.,



the newly opened uranium mines at Blind River, Ont., and Consolidated Mining & Smelting, CPR's huge subsidiary in British Columbia.

- Unemployment is spreading. More than 12,000 workers are being laid off by Inco and Consolidated Mining; the 400 employees of Canadian Gypsum, subsidiary of National Gypsum Co., were quickly furloughed in Nova Scotia.

- Exports to the U.S. have been curtailed, although Canadian National is trying to take on the bulk of trans-border shipments. Many of the biggest Canadian paper mills are on the CPR line through northern Ontario, so newsprint deliveries to the U.S. are largely tied up. On the West Coast, the Great Northern's spur line between Seattle and Vancouver carries some exports.

- Deep-sea shipping is in trouble on both coasts. Arrival of 5,500 Hungarian refugees at Halifax in the next two weeks could present serious problems for the remaining transit lines: CNR and Trans Canada Airlines. The port of St. John, New Brunswick, has declared a public emergency. On the West Coast, freight is piling up on Vancouver piers. CPR's ships are not strikebound, but Vancouver longshoremen are honoring the firemen's strike.

- Towns in Distress—All along the rusting Canadian Pacific tracks, hundreds of communities are in distress. Across northern Ontario and Quebec, in the prairie provinces, along the mountainous southern fringe of British Columbia, towns are husbanding their supplies of fuel and food. With roads clogged with snow or glazed with ice, they don't know when their next shipments are coming.

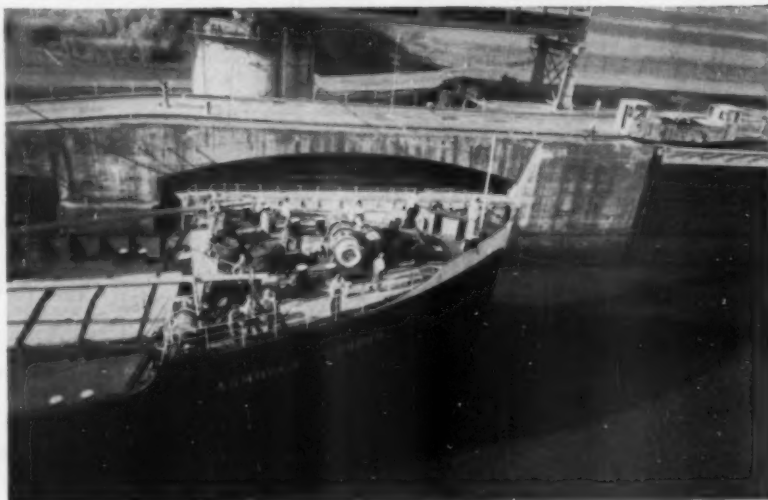
For example, Chapleau, Ont., a CPR junction point in the north, has a scant 6,000 gal. of fuel oil on hand and is anxiously awaiting organization of trucking services. Revelstoke, in the British Columbia Rockies, has 900 unemployed—all CPR men—in a population of about 3,000. "How long will it take Mactier to die?" asks the Toronto Telegram in speaking of an Ontario village (pop. 1,000) whose entire labor force is employed by CPR.

In Alberta, more than 1,000 prairie towns that serve as grain shipping outlets for the Canadian Pacific must rely on a rural highway system that's choked at some points by snow.

To meet the crisis, the Canadian Trucking Assn. this week launched an emergency program under local trucking coordinators. Kingsway Transports, Ltd., with a pool of 1,600 large trailer trucks, is already moving drugs, fuel, and food to isolated northern Ontario and Quebec towns on a round-the-clock basis. Alberta Motor Truck Assn. is setting up a similar trucking pool in that province.



Soviet Ship in Panama Canal . . .



. . . Gets Close Watch at Locks



. . . Naval Escort to Keep Tabs

One byproduct of the Suez shut-down is showing up in the Panama Canal this month—a sudden influx of Soviet cargo vessels en route from the Far East to Europe, or the reverse. The canal is open to all, but U.S. authorities are taking no chances—and the first

Soviet ships moved through last week under virtual wartime security guard, with Marines aboard, U.S. soldiers pacing the locks, and an armed Navy vessel trailing closely behind.

The first of the 15 or 20 Russian-flag ships expected to pass through the

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	AMOUNT	3-YR. COST	AMOUNT	3-YR. COST	
Your Home					
Fire.....	\$20,000	\$ 90.00	\$22,500		\$2,500
Extended Coverage.....	20,000	150.00	22,500		2,500
Additional Extended Coverage.....			22,500		22,500
Additional Living Expenses.....			4,500		4,500
Your Private Outbuildings					
Fire.....	\$2,000		\$2,250		\$ 250
Extended Coverage.....	2,000		2,250		250
Additional Extended Coverage.....			2,250		2,250
Your Personal and Household Property					\$424.50
Fire.....	\$5,000	\$30.00	\$9,000		\$4,000
Extended Coverage.....	5,000	37.50	9,000		4,000
Additional Extended Coverage.....			9,000		9,000
Theft from Premises.....	2,000	63.00	9,000		7,000
Theft Away from Premises.....	1,000	39.00	1,000		
Comprehensive Personal Liability					
Bodily Injury & Property Damage.....	\$20,000	\$34.50	\$20,000		
Medical Payments.....	250		250		
TOTAL COST:		\$444.00			\$424.50
ESTIMATED DIVIDEND:					84.90
ANTICIPATED NET COST:		444.00			339.60

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Panama Canal this month were the 4,000-ton Admiral Senyavin, carrying a cargo of zinc concentrates to a Black Sea port from a Soviet-held island off Japan, and the 2,100-ton Nikolai Ostrovsky, bound for London from Vladivostok with canned crabmeat and fish. They'll be followed by tankers and refrigerated cargo ships. By contrast, in the past two years only two Soviet ships have gone through Panama.

Canal authorities took no chances of anything happening to the canal's vital—and vulnerable—locks. They gave the Soviet ships a taste of the restrictions put on U.S. ships that have to use Soviet ports—no shore leave, all cameras impounded, a complete inspection of ships and cargo before passage. During the nine-hour trip the Soviet ships were kept over a mile away from others, and a helicopter circled above.

U. S. Sells Texas Smelter In Exit From Tin Business

The government has just taken itself out of the tin smelting business—a line it entered in the first place to beat wartime shortages.

After months of negotiations, it sold the Longhorn tin smelter in Texas City, Tex., to the Wah Chang Corp., New York. For the government's \$13.2-million investment (current depreciated book value: about \$5-million), Wah Chang is paying \$1,350,000, with a 10% cash down payment and annual installments on the balance for 10 years at 4% interest. The purchaser also agreed to fork over more money, on a flexible scale depending on its success with the new venture, up to \$2-million.

Wah Chang will revamp the Texas facilities to produce tin alloys and tungsten but will maintain some of the smelting operations, on a smaller scale than before. The company, one of the world's biggest cleaners of tungsten concentrate, helped nurse the U.S. through wartime scarcities of that vital material (BW—Nov. 21 '53, p. 112).

Completed in 1942, Wah Chang's new property was the government's principle source of tin during World War II and Korea. It is the only tin smelter of any significance in the Western Hemisphere. But ever since stock-pile goals for tin were reached almost three years ago, the government has wanted to be rid of the plant. Congress, pressed by members of the Texas delegation, kept giving it new leases on life until the stern final verdict—government operations must cease by Jan. 31. The Wah Chang deal was consummated just within that deadline.

Auto Production Scoreboard for 1956

How the companies and the makes line up

	1955	Percent	1956	Percent
TOTAL INDUSTRY	7,942,131		5,800,883	
Total General Motors	3,989,987	50.24	3,062,428	52.79
Total Ford	2,240,661	28.21	1,669,165	28.77
Total Chrysler	1,361,835	17.15	870,261	15.00
Total AMC	161,790	2.04	103,340	1.78
Total S-P	182,059	2.29	95,689	1.66
Chevrolet	1,830,038	23.04	1,621,019	27.94
Ford	1,764,524	22.22	1,373,542	23.68
Buick	781,296	9.84	535,364	9.23
Plymouth	742,991	9.36	452,958	7.81
Oldsmobile	643,459	8.10	432,904	7.46
Pontiac	581,860	7.33	332,268	5.73
Mercury	434,911	5.47	246,628	4.25
Dodge	313,038	3.94	205,727	3.55
Cadillac	153,334	1.93	140,873	2.43
De Soto	129,767	1.63	104,090	1.79
Chrysler	176,039	2.22	95,356	1.64
Studebaker	112,392	1.42	82,257	1.42
Rambler	83,852	1.06	79,162	1.36
Lincoln	39,995	0.50	47,670	0.82
Nash	51,315	0.64	16,996	0.29
Packard	69,667	0.87	13,432	0.24
Imperial	—	—	12,130	0.21
Hudson	26,623	0.34	7,182	0.12
Continental	1,231	0.02	1,325	0.02

Data: Manufacturers.

LAST YEAR turned out to be one of the automobile industry's uncommon years. For only the second time since World War II, more cars were sold than were produced. With the industry trying to balance dealer inventories with demand, production of passenger cars totaled a little over 5.8-million against estimated registrations of 6.2-million.

Another anomaly is that the two makes that appear to have topped their 1955 sales—Cadillac and Lincoln—are in the luxury class. Continental sales also were higher, but production was limited.

• **Why?**—A heavy first-of-the-year inventory and a spring market that never developed were the chief reasons the industry sold more than it produced last year. Optimistic over 1955's record sales of nearly 7.2-million, auto makers turned out 1956 models at top speed during the last quarter of 1955, and entered the year with a staggering inventory estimated at 750,000.

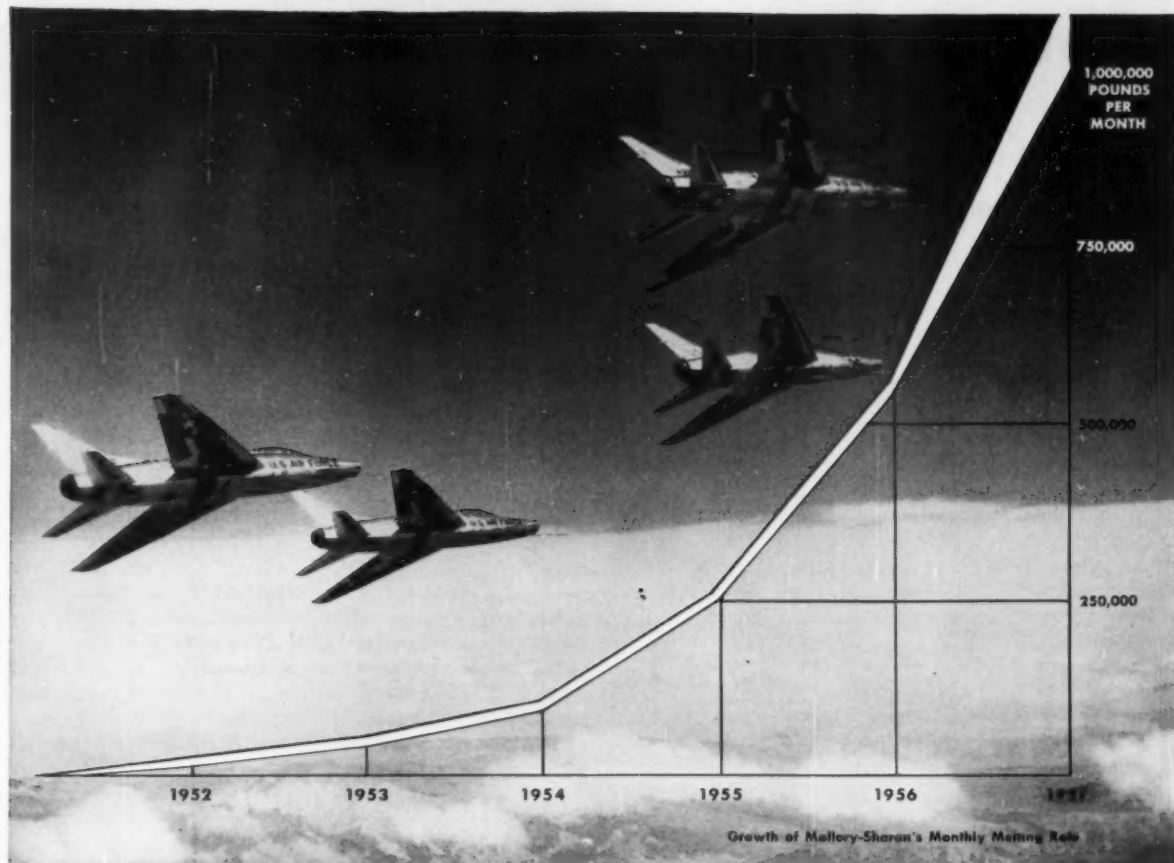
However, most of the new cars were changed little in appearance from 1955 models, and evoked little enthusiasm. As the year wore on, production kept tapering off to balance inventories with de-

mand. In midsummer, before the shutdown for model changeover operations, 144,000 workers had been laid off in Detroit. During July, manufacturing employment totaled only 556,000, and was at its lowest level in Detroit in 22 months.

Cautious scheduling by manufacturers makes it unlikely that such an imbalance will recur this year. Output in the final quarter of 1956 was held down, and dealer inventory on Jan. 1 was estimated at a manageable 350,000 autos.

• **The Field**—Although registrations for 1956 are incomplete, the outcome of the sales race has been established. Chevrolet, perennial front-runner, increased its share of the market from 22.5% to 26.3%. The next seven top-selling cars of 1955—Ford, Buick, Plymouth, Oldsmobile, Pontiac, Mercury, and Dodge—also remained in the same positions.

Cadillac pushed Chrysler out of the 9th spot, Nash moved up a notch on the strength of Rambler sales, and Lincoln jumped from 16th to 14th. Studebaker changed places with Nash, and Packard dropped from 14th to 16th place.



TITANIUM IN 1957:

Mallory-Sharon nears 1,000,000 pound-per-month capacity, dramatically improves quality, introduces new alloys

• Titanium continues to be a wonder metal in its growth.

This year Mallory-Sharon, a leader in titanium mill products, will produce more than the entire titanium industry in 1955. A major plant expansion now nearing completion will boost Mallory-Sharon's melting capacity to one million pounds per month.

And this is vastly better titanium than that of two years ago, since properties of the metal are now under much better control. We certify titanium mechanical properties within definite limits. We guarantee very

low carbon content to assure the best machineability. As a result major titanium fabricators have drastically cut scrap loss, and costs.

New developments will continue to expand titanium's market. Weldable alloys, commercially introduced by Mallory-Sharon, have been proved in service. New sheet alloys, readily weldable and heat treatable to very

high strengths, are in trial production. Titanium is vital to our air superiority. And new applications of this strong, light, corrosion-resistant metal are being found each day in industry. Let Mallory-Sharon, technical leader in titanium, help you design ahead with this new metal. Write for information and application assistance.

MALLORY  SHARON

MALLORY-SHARON TITANIUM CORPORATION • NILES, OHIO



Producers of titanium and titanium alloy sheet, strip, plate, rod, bar, billets

In Business

• • •

Anti-Crash Plane Radar Is Not for Now Says Collins Radio, Ending Contracts

The problems of developing an effective device to prevent mid-air crashes is harder than originally thought.

This week Collins Radio Co., which had been working on such equipment for major airlines on contracts worth more than \$10-million, decided to cancel its orders. According to industry experts, the nature of the problems are such that they cannot be surmounted with presently available techniques.

Collins emphasized it has not stopped work on its anti-collision program. It is said that if the airlines were to get the devices that met certain size, weight, and electronic equipment restrictions, called for in the contracts, they would not do the required job effectively.

Instead, says the radio equipment manufacturer, it will work to meet the problems unhampered by earlier restrictions.

• • •

Peace Dove Hovers Over Loew's After Tentative Compromise

It looks now as if the expected proxy fight over Loew's Inc., biggest movie maker, will be called off, with management meeting many of the dissidents' demands.

At midweek, tentative agreement has been reached on a new "unanimous" slate of directors with 10 "outsiders" on the 13-man board. These would represent interests of both Joseph Tomlinson, Canadian builder and reportedly largest single stockholder, and of New York financial groups. This is a sharp turnaround for the company, where traditional "insider" control was a sharp point of controversy.

Meanwhile, the company, under the presidency of Joseph R. Vogel, is making other changes to answer complaints, paring high-priced studio personnel and making more deals with independent producers to reduce studio overhead.

Lest tentative agreements break down, Tomlinson is keeping intact his proxy-war organization, proxy solicitors, a public relations firm, and a New York headquarters. SEC filings have been complied with, and material is ready to distribute.

• • •

Latest Two-Way Mobile Radio Eliminates Tubes—and Extra Listeners

The Stromberg-Carlson division of General Dynamics Corp. is jumping into the two-way mobile radio field with a claimed first: elimination of all tubes and the vibrator from the power supply by the use of an oscillator-transistor setup. The company says this should cut

maintenance by more than half, and reduce drain on the battery by 30% on the buses that will be the first users.

The first equipment will be installed in 25 buses of the Rochester Transit Corp., which predicts a notable gain in service since drivers will be able to report problems and get instructions instantly. With the equipment, the dispatcher can cut out all other buses and talk privately to one driver, as soon as he has made contact.

Stromberg-Carlson says its equipment will be priced competitively with others in the field, and will take up less space, mainly due to compact power supply.

• • •

Business Briefs

Pure Oil Co. denies Federal Trade Commission charges of price discrimination; the company says it reduced gasoline prices in the Birmingham (Ala.) area only after "private-brand" competitors started a price war. Otherwise, says Pure Oil, its own independent retailers would have been forced out of business.

The National Science Foundation is cranking up for a survey of 1956 spending by industry and government on research and development. NSF hopes Congress will O.K. similar studies on an annual basis. Meanwhile, NSF has issued its report on 1953—Science and Engineering in American Industry; it shows that federal agencies in that year put up over \$2.8-billion for R&D, while industry provided nearly \$2.4-billion.

After 34 years on its own, Isthmian Lines, Inc., has asked the Maritime Administration for an operating subsidy on its round-the-world shipping service. This leaves Waterman Steamship Corp. as the only unsubsidized scheduled line, and even Waterman is expected to yield soon to the pressure of costs. There is even talk that the non-sked tramp operators will get help, too.

American Petrofina, Inc., has arranged to buy American Liberty Oil Co. for cash and securities estimated in the trade at \$35-million. American Petrofina, the U.S. branch of a large Belgian oil company, will thus acquire crude reserves of about 14-million bbl. and 800,000 acres of undeveloped leases.

Grow! Grow! Grow! A record \$400-million capital spending and exploration budget has been set up for 1957 by Standard Oil Co. of California. . . . Bell Telephone of Pa. will spend \$132-million on expansion this year; its sister company in Ohio has \$26-million plans. . . . New Jersey's Public Service Electric & Gas Co. will spend \$130-million on construction. . . . Westcoast Transmission Co., Ltd., will spend \$100-million on pipelines and a sulfur plant in Canada. . . . Union Electric Co. of Missouri has a 1957 expansion budget of \$63-million. . . . General Electric will spend \$170-million on expansion in 1957, \$20-million below last year.

Ford Motor Co.'s Ford Div. says its dealers sold more cars in the last two months of 1956 than in any previous November-December span. The old peak was in 1955, when deliveries were 262,302.

See what adhesives are doing today!



THIS BLACK ADHESIVE YOU SEE KEEPS COOLNESS UNDER WRAPS FOR YOUR AIR-CONDITIONED COMFORT—IT'S RUGGED EC-321 BY 3M

Holding a grip on sweating metal

You can feel the cold metal "sweating" as moisture condenses on it. Yet, to provide air-conditioning efficiency, you must apply insulation to the surface of this duct. And you have to do it despite condensation.

EC-321 holds insulation tight regardless of that moisture. The architect here specified this 3M adhesive after he

saw a competitive adhesive fail. It was literally "sweated" loose.

EC-321 brushes easily, grips at once and allows enough working time. Where the fibrous glass must be drawn up between ducts, EC-321 doesn't bind or tear. It's nonflammable, fastens liner to duct interiors, bonds insulation to hot-air ducts, too.

Hundreds of 3M adhesives serve many varied metalworking industries, all the way from factory to installation.

SEE WHAT ADHESIVES CAN DO FOR YOU!

If you face a fastening problem, call your 3M Field Engineer. Consult 3M research. For a free booklet write: 3M, Dept. 11, 417 Piquette Ave., Detroit 2, Mich.



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REFLECTIVE SHEETINGS • "3M" ABRASIVE PAPER AND CLOTH • "3M" ADHESIVES AND COATINGS • "3M" ROOFING GRANULES • "3M" CHEMICALS

Count upkeep too when you price Industrial Trucks



The idea that the cheapest possible industrial truck is the best bargain is a pure myth. *Electric* industrial trucks admittedly cost more in the beginning. But they cost a good deal less in the end—averaging \$1000 per year savings per truck.

Upkeep is the big waste-factor in the operation of low priced trucks. And when you figure overall industrial truck cost, you've got to figure upkeep just as much as you do first cost.

Look how many ways electric industrial trucks save you money. They run on electric power—the cheapest power available. You take it right from your regular plant electric system and store it in the heavy duty, long-life batteries the trucks carry. Electric power means freedom from the costly price fluctuations common with other fuels. It's the only source of power that costs less today than it did 10 years ago, and is likely to cost still less 10 years from now.

The cool-running electric drive system does away with hundreds of moving parts and considerable friction wear. Hence it seldom breaks down and seldom needs expensive repairs and parts replacement. This not only saves you hundreds of dollars every year in materials and labor, but assures that your trucks will be on the job when you want them.

These are important cost considerations for up-to-date management men today. In addition, electric industrial trucks are easier to operate and make practically no noise—advantages especially appreciated by plant personnel. Have a talk with your nearby industrial truck dealer or salesman. He's listed in your classified telephone directory under "Trucks—industrial."

This message is presented as a service to industry by Exide Industrial Division, The Electric Storage Battery Company, Phila. 2, Pa.

THE ELECTRIC STORAGE BATTERY COMPANY **Exide®**

WASHINGTON OUTLOOK

WASHINGTON
BUREAU
JAN. 12, 1957



Pres. Eisenhower will get a Middle East resolution. The Democrats don't like the idea of voting what some of them call a "conditional declaration of war." But they are afraid to say "no." A crisis could put them on a bad political spot, where they could be charged with tying the hands of the President and thus encouraging Russian expansion. The end result will be a compromise—not all Eisenhower wants, but a policy declaration that will put Moscow on notice to go slow in the Middle East (page 137).

—•—

Look behind the civil rights maneuvering to the bitterness that's now developing. Southerners in the Senate are accustomed to periodic attacks on the so-called filibuster rule. They know that members from other areas have records to make. This time, the threat is taken seriously.

Many bills will be threatened with delay, even defeat, if the issue is pushed to a real showdown. The signs now indicate that this may be the year when the rules challenge will go beyond mere record-making.

The Democratic majority in the Senate is badly split. The so-called Liberal wing from the West, North, and Northeast picked up some strength in the November elections. It's still a minority within the party, but its leaders talk about forcing a real showdown this year.

Republicans will become less neutral. In the past, they have rather stayed on the sidelines while the Democrats fought, then lined up with the Southern Conservatives. This time, there are signs that the White House will put on some pressure. Eisenhower benefited from Negro votes in both the North and South in last fall's landslide.

Senate Rule 22 is the hub of the fight. It's a pretty simple rule. It merely says that the Senate can not impose a limit on debate unless two-thirds of the full membership—not just those voting—agree to set a time. In the past, Southerners and other minorities have used this to talk to death legislation they opposed. The only change that seems to have any chance at this time would be to permit a limitation of debate by two-thirds of those voting. That would get away from the present statutory two-thirds majority—two-thirds of the whole Senate, no matter how many showed up on the floor to vote.

—•—

Federal aid for school construction is doomed for the year unless the Administration can persuade Republicans in the House to withdraw their support from amendments prohibiting segregation in federally aided districts. House Republicans voted for Rep. Adam Clayton Powell's segregation ban last year, and the aid program died in the process.

Public housing faces a similar future. Opponents of segregation and opponents of federally financed public housing have combined to try to attach a non-discrimination rider in the past. They've failed, but will redouble efforts this year if given a chance. The legislative situation is such that the anti-discrimination issue cannot easily be raised on public housing this year, but an effort may be made to put a rider on FHA mortgage authority in general housing legislation.

A showdown on civil rights legislation itself may turn out to be the main battleground. Senate leaders are attempting to get a compromise on a series of bills favoring equal treatment, but without the teeth of enforce-

WASHINGTON OUTLOOK (Continued)

WASHINGTON
BUREAU
JAN. 12, 1957

ment. In this way, they hope to avoid a Southern filibuster. But Republicans and Democrats from the cities are expected to push harder than ever for federal enforcement of non-discrimination—at the polls, in schools, housing, buses, and trains.

—•—

If any anti-discrimination measure passes the House, the Senate will have a filibuster. Southerners contend they cannot even take the chance that anti-discrimination riders would be knocked out of final legislation, even though the Senate itself withheld such language from its measure.

Filibusters leave scars. They delay work on other issues, and if a hiatus occurs early, a lot of legislation late in the session will be blocked in the usual hectic adjournment drive. A late filibuster could put the appropriations schedule out of kilter. Besides, the bruises to feelings and principles resulting from the long hours, and undisciplined talk usually return to affect even unrelated legislation.

Take foreign aid: There is already a lot of doubt among Democrats, particularly Southerners, that the Administration's plan for an increase in aid is necessary. Should Southerners be ganged up on by Administration Republicans and northern Democrats in a civil rights battle, a lot of them will be inclined to strike back at Eisenhower. Their key positions give them added strength to oppose, to trim money requests, to make life difficult, at least. For men such as Sens. Richard B. Russell, James O. Eastland, Herman Talmadge, and Strom Thurmond, the time has come for a last stand.

—•—

There will be an investigation of the FRB—the Federal Reserve Board, which is the big influence on the nation's credit supply.

A national monetary commission will be set up to carry out a broad investigation of public lending agencies and private financial institutions. It will look into the charge that the Fed's tight-money policy discriminates against certain types of borrowers—in small business and housing, for instance.

The real issue is this: The Fed is an independent agency. It can tighten or loosen the credit supply with no attention to the economic policy of the Administration that's in power at the time. It is responsible to Congress, and not the White House. Yet decisions made by the Fed can influence elections. It's an old political issue—one that both Republicans and Democrats are aware of.

No early legislation is in sight. Congress will be slow to change the Fed's status.

—•—

A GOP showdown over 1960 is in the making—a real fight over who will run as Eisenhower's successor.

Nixon will continue to hold the inside track. Eisenhower's attitude toward the post of Vice-President automatically builds Nixon up.

Knowland will make a challenge. He's the Senate GOP leader and, next to Nixon, the top Californian in Washington. Now he has decided to quit the Senate in 1958 and run for governor of his own state. A victory would put him in position to challenge Nixon.

Keep an eye on Len Hall, the GOP national chairman. He's restless, wants to get out of his present job.



Put your desk
out here some day—
and watch the Customers Go Buy!

Leave the office behind for a day. Come out where advertising works a 24-hour shift! Watch your customers stream past; on the move, and in the mood, to buy.

Or ride a showing. Note how OUTDOOR posters and painted bulletins cover every street and highway that leads to retail outlets . . . and deliver a vast circulation.

4 out of 5 people every month remember seeing specific OUTDOOR advertisements, according to nation-wide Starch Studies. In markets tested more than 90% of people pass current posters, an average of 21 times in a 30-day period.*

Think about Outdoor's extra advantages of color, flexibility and placing your message close to the point of sale. Then compare the low cost per 1000 with any other medium.

You'll come to only one decision. In today's fast-changing, fast-moving marketing picture, your plans must include OUTDOOR!

*From Starch Continuing Study of Outdoor Advertising

OUTDOOR ADVERTISING INC.

NATIONAL SALES REPRESENTATIVE OF THE OUTDOOR MEDIUM



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Pittsburgh COLOR DYNAMICS® increases efficiency in making shipping containers

FOR MORE THAN two years Pittsburgh COLOR DYNAMICS has been proving that planned use of color is a profitable investment for management and workers alike in the Cleveland plant of the Hankins Container Company. This modern structure was painted according to the principles of this modern system to improve productive efficiency and provide more cheerful surroundings.

The Hankins Container Company fabricates corrugated paper shipping cases and inner packing, packages for electric light bulbs, and paper containers of many types. Thirty million square feet of corrugated board are processed monthly.

Interior walls and ceilings of this plant are painted with morale-building colors of high reflectance value to make work areas brighter. Eye-rest colors on lower walls reduce eye strain. Machinery in focal and eye-rest colors enables operators to see their jobs better. Safety colors on operating controls, mobile equipment and traffic lanes reduce danger of accidents.

How COLOR DYNAMICS contributes to higher efficiency and morale is best expressed by R. A. Rabatsky, manufacturing vice-president:

"COLOR DYNAMICS has been helpful in providing our employees with more pleasant environment. By re-

Modern system of painting improves working conditions in Cleveland plant of Hankins Container Company, where 30,000,000 sq. ft. of corrugated board are processed monthly

ducing eye fatigue we have increased their efficiency. This system of painting has also contributed to improved morale. Our people take pride in their surroundings and help to keep work areas clean and orderly. From every standpoint, COLOR DYNAMICS has been helpful in bettering our operation."

Why not investigate how this modern method of painting will improve efficiency, morale and safety in your plant? To paint with COLOR DYNAMICS costs no more than a conventional maintenance job.

It's FREE—A Modern Color Plan for Your Plant

● We'll be glad to send you a free copy of our fully-illustrated book on the use of COLOR DYNAMICS in industrial plants. It explains simply and clearly what this painting system is and how to use it. Better still, we'll be glad to prepare a

detailed color plan of your factory, or any part of it, without cost or obligation. Call your nearest Pittsburgh Plate Glass Company branch and arrange to have a representative see you, or mail coupon at right.



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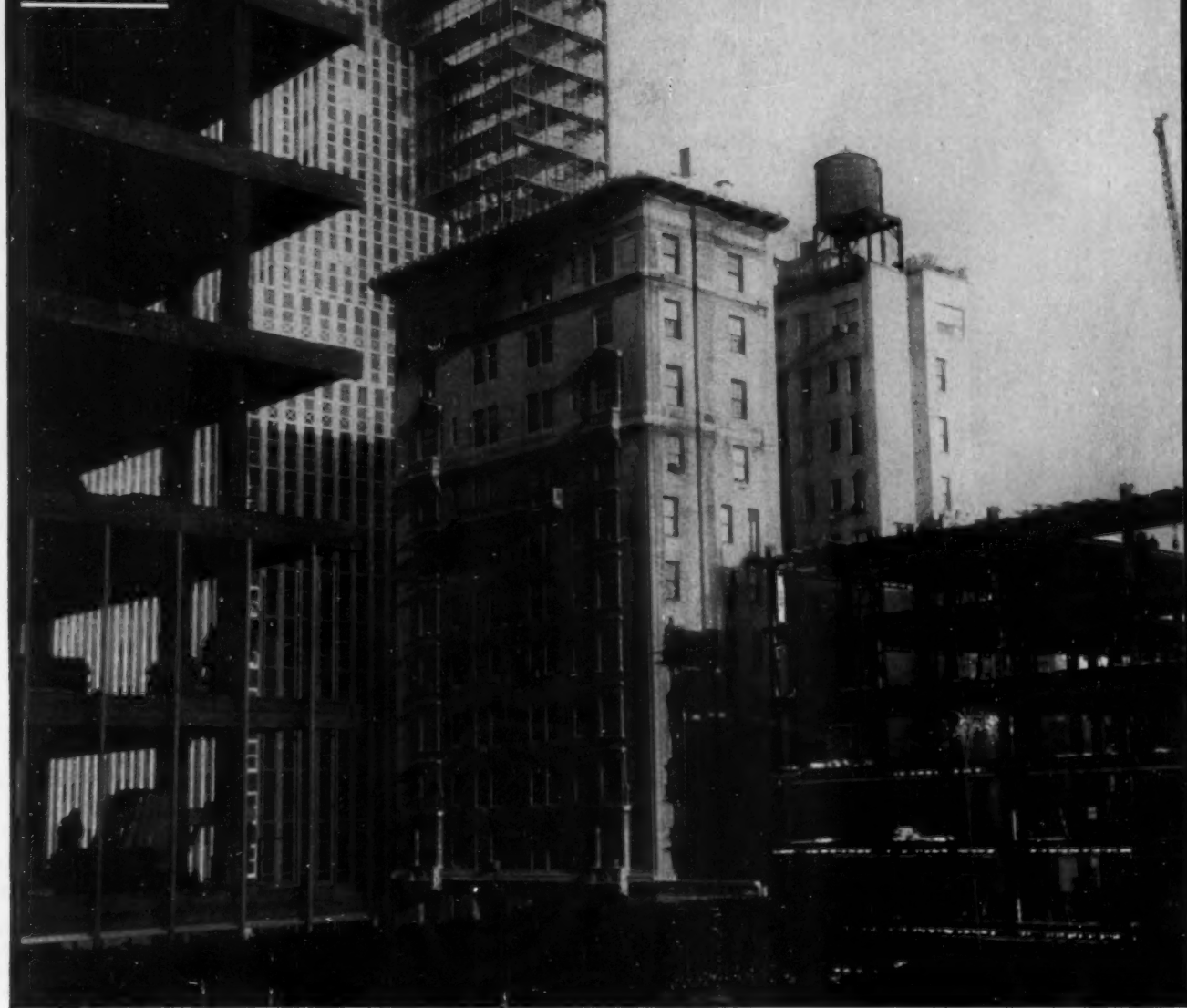
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REGIONS



Hangover memories of the 1930s can't slow New York's lush postwar crop of office structures.

The Builders Keep Right On

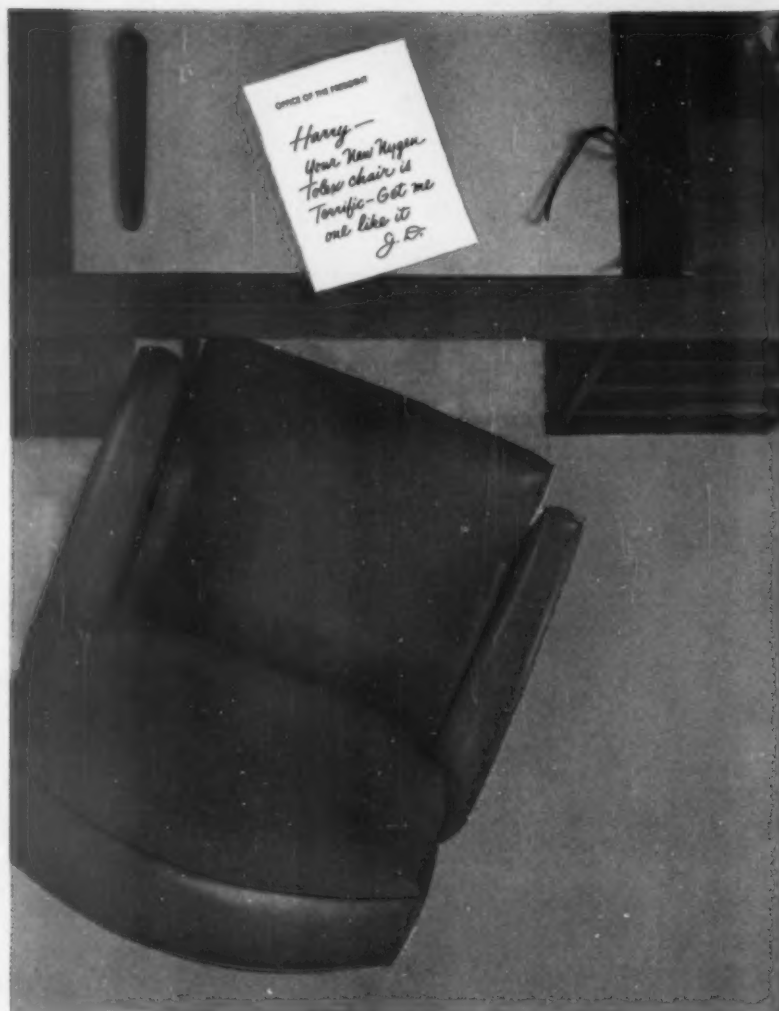
In putting up office buildings, as in drinking, it's often hard to tell when you've had enough. The cumulative effects aren't apparent until later.

Since the end of World War II, Manhattan Island has seen an unequaled spree of office construction. And nowadays there isn't a local builder, broker, investor, or lender who isn't anxious to know when it will end—and when it ought to end.

All too fresh in their memory is the "hangover" they suffered in the 1930s when rows of floors in many new buildings went unrented for years. During the Depression, mortgage bonds of New York office building corporations were being defaulted all over the place. Approximately 32-million sq. ft. of office space went up in the city, most of it in a 12-year boom between the War and the Depression.

Now the nation is approaching another postwar 12-year mark. In that time, approximately 120 New York office structures totaling some 40-million sq. ft. have been erected, are being erected, or are on drawing boards. That's more than the total office space of any other city in the country.

Most builders are convinced this won't be too much. They base their opinions on files that are still bulging



New Luxurious **NYGEN Tolex®**

...the supported vinyl upholstery that stays in business longer

Modern research has now succeeded in capturing all the rich beauty of natural leathers and soft fabrics in a new upholstery material—Nygen Tolex. Exceptionally comfortable, long-wearing and low in cost, Nygen Tolex resists scuffs and stains . . . is easily cleaned with a damp cloth.

Specify Nygen Tolex on all your new office chairs—in any one of the many distinctive patterns and colors now so popular. For samples or the names of office chair manufacturers who use Nygen Tolex write:

THE GENERAL TIRE & RUBBER CO.
TEXTILEATHER DIVISION • Toledo 3, Ohio

Makers of supported vinyl fabrics for products used in business and homes.



with the needs of prospective tenants.

• **Duplication**—The chief concern of outside observers is that some day too many builders with shiny new structures under way are going to be counting on snaring the same tenants. Should that day arrive, capacity would catch up with and surpass demand with alarming speed. And New York would once again wake up with the headache of too much office space.

Builders admit this is a possibility, but only a remote one. Here's why:

In the first place, they say, the growth of office buildings so far hasn't been excessive. In the second, there are plenty of reasons why it should continue. In the third—and despite the first two—there are factors putting brakes on the rush now. These appear to be slowing it down even before the needs of all prospective tenants can be met.

The builders insist that 40-million sq. ft. isn't so fantastic as it seems. Of this total, only about 35-million sq. ft. will be in competitive buildings—that is buildings put up on speculation and rented out to more than one tenant. The remainder are offices built for and occupied by one company.

• **Expansion Rate**—According to the Real Estate Board of New York, there were approximately 100-million sq. ft. of office space available before the war. New building, therefore, means an expansion of only 35%.

Since New York is the market place of the nation if not the world, the country's financial capital, and the headquarters city for a large number of the biggest U.S. corporations (BW—Oct.13'56,p125), it is only natural that office space must expand as the economy expands.

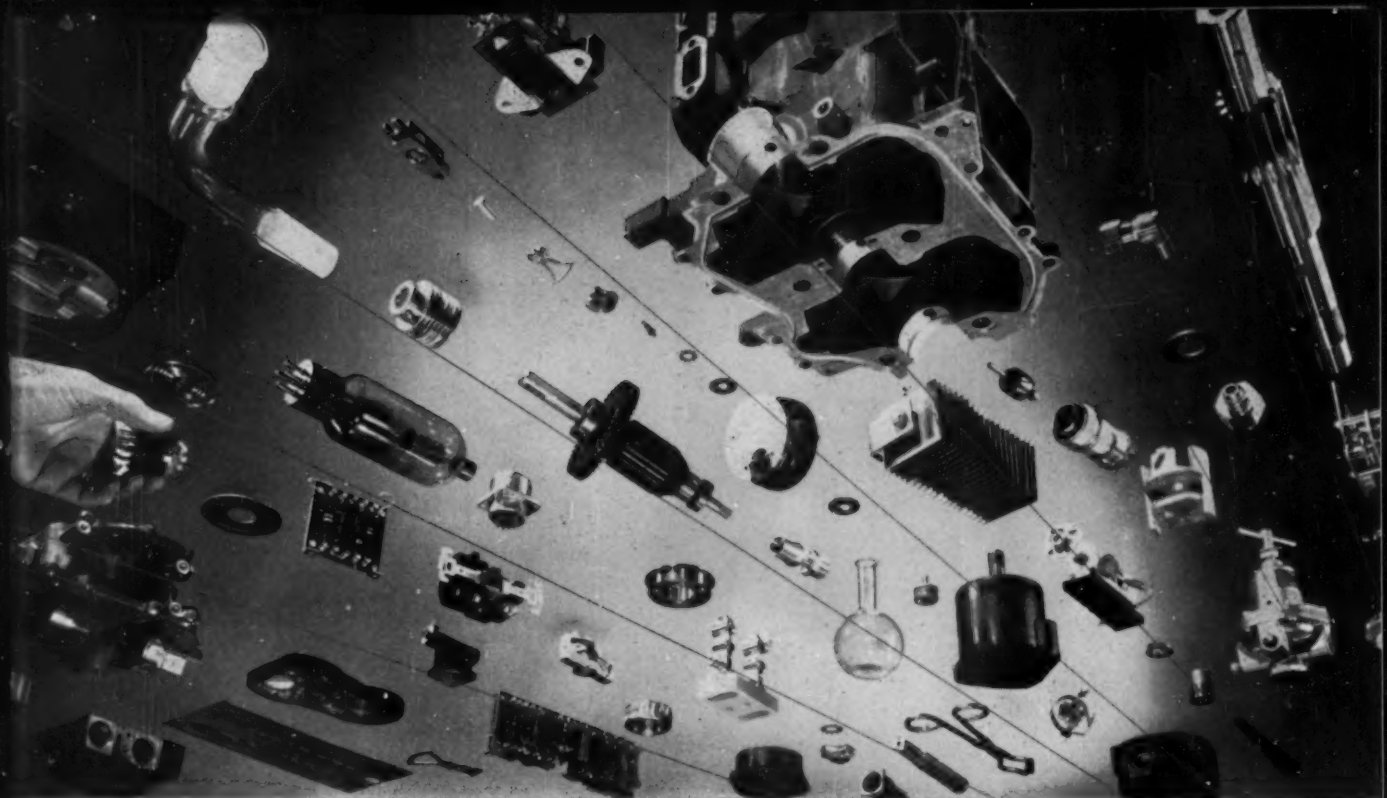
After all, say several builders, what's a 35% growth in headquarters space compared with a 91% increase in the gross national product since the war or a 58% increase in industrial production?

Office building in New York, then, is not dependent on the prosperity of the city; it is a result of the prosperity of the country.

Another reason why so much new office space has been filled is that big companies such as Lever Bros. and Colgate-Palmolive Co. have felt it necessary to move their headquarters to Manhattan.

Other companies such as Union Carbide & Carbon Corp. and Time, Inc., which had actually bought land elsewhere preparatory to moving out, have now decided to stay and expand. They will both build huge headquarters structures of over 1-million sq. ft. each in which they will occupy a large part of the space.

• **Air Conditioning**—The coming of air conditioning has also played an enor-



NOTHING CLEANS SO CLEAN, SO FAST, SO ECONOMICALLY AS THE BENDIX ULTRASONIC CLEANING SYSTEM!

SEVERAL HUNDRED COMPANIES NOW USING NEW, HIGH-FREQUENCY SOUND-WAVE METHOD FOR CLEANING VOLUME PARTS

What is contamination on production parts and assemblies costing you?

There can be no question that a great many businesses are paying heavy penalties . . . in both time and money . . . for lack of a really efficient, really low-cost way of cleaning production parts and assemblies.

If your company has any kind of problem in cleaning all types of parts or assemblies, the experience of several hundred users of Bendix Ultrasonic Cleaning methods can be of real importance to you.

Without exception, these users report Bendix Ultrasonic Cleaning to be far faster, much cheaper and three to seven times more effective than any other method.

Grease, lapping compounds, cutting oils, abrasives and other contaminants that can interfere with parts and assembly performance are removed 99.5% to 100% . . . in seconds. And it makes no difference whether the part or assembly is metal, ceramics, plastic or glass.

The experience of those who use Bendix Ultrasonics further shows drastic reductions in cleaning costs. Direct labor savings amount to as much as 75%. Rejects, due to the presence of contamination, become practically nonexistent. Savings from using water-detergent solutions, instead of expensive solvents, often run 90% . . . and more.

How are all these benefits possible? Because, for the first time, a revolutionary . . . and better . . . cleaning principle has been successfully applied to today's volume cleaning jobs. Bendix high-frequency sound waves "break loose" contamination from parts and assemblies as no other method can. These Bendix "scrubbing fingers" easily reach into tiny crevices, blind holes and other areas too complicated for other cleaning methods to touch.

There is much that can be said for this revolutionary new cleaning method. To learn how it may effect important cost reductions for your company, ask us on your letterhead for the brochure, "Industry's New Servant".

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Export Sales & Service: Bendix International Division

205 E. 42nd St., New York 17, N.Y.

Canadian Distributor: Williams & Wilson, Ltd., 11 Front St., E., Toronto, Ontario



BENDIX UNITIZED ULTRASONIC CLEANER
—offering complete cleaning, rinsing and drying in one "package". Completely adaptable to job needs. Various capacities. Many automatic features. Straight-line work flow. Top-loading throughout. No specially skilled help required.

Pioneer-Central Division

DAVENPORT, IOWA





Now—firms with 10 to 100 employees can take the lost time out of coffee time

New "Take-a-Break" Dispenser Brings Coffee Break as Close as Water Cooler — Serves Coffee, Cocoa, Bouillon!

Now you can make an asset of the coffee break, even if you employ as few as ten. Eliminate the annoying twice-a-day exodus. Boost morale by providing hot beverages as close as the cooler. And watch savings climb!

All you need is a water cooler—your local "Take-a-Break" vending service takes over from there. They'll place a "Take-a-Break" Dispenser next to the cooler and keep it supplied with self-service packets of Nescafé instant coffee (in 3-in-1 pack with Nescreme and sugar), EverReady® cocoa and soup.

Your employees make their own

beverages to individual strength and taste, using thermostatically controlled hot water from the fountain (easily arranged by your "Take-a-Break" vendor). The coin mechanism may be set to vend at 10¢, 5¢ or free. Includes cup and stir stick.

Completely sanitary. No cleaning or spoilage. No big, unsightly machine, either. "Take-a-Break" was designed for locations where appearance counts. Only 13" wide, color-matched to your cooler—attractive enough for your reception room. Write for details.

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BEAUTY PARLORS • AUTOMOBILE
SHOWROOMS • MOTELS

For larger plants, too
—a "Take-a-Break" Dispenser next
to every water cooler cuts coffee-
break travel time.

mous part in the office building surge.

Because almost every major company in New York is expanding or plans to expand, the shortage of good clerical and secretarial help is severe. If moving to an air-conditioned building cuts a company's employee turnover by 5%, the move often more than pays for itself despite higher rents. That's why, builders say, they consider every company in non air-conditioned space a potential prospect.

Attesting to the shortage of office space which still exists is the fact that whenever a company moves out of a building, the remaining tenants invariably snap up the vacated space.

The market continues firm enough to make it possible for owners of "old" buildings to air condition and renovate the temporarily vacant space and then raise the rent.

Still another reason why companies leave buildings where they pay \$3 a sq. ft. for others with higher rents is that it pays off through efficiencies achieved.

Union Carbide, for example, is now in a dozen or so buildings. Since it is still growing, it can save money by going into a new building where it can take over and partition big floor areas to suit its own needs.

All in all, builders and real estate men insist the vast program has been justified, and that there is still a need for more big office buildings. They point to these factors:

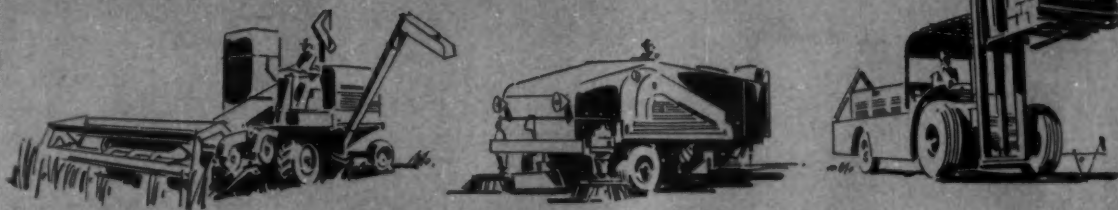
- Since the war, 63 office buildings have been built adding 16-million sq. ft. This space is 100% rented. Right now 19 more buildings with 7.4-million sq. ft. are under construction. Depending on how far along they are, big areas of these are taken. Despite this, the vacancy rate of New York office buildings, according to the Real Estate Board's latest check in May, 1956, was only 1.4%. In May, 1955, the vacancy rate was 1.2%, in 1954, it was 1.8%, and in 1953 it was 0.9%. The lowest it has ever been is 0.2% in 1947; the highest, around 25% in 1935.

- Several corporations that expanded their offices when they moved into new buildings have now discovered they didn't expand enough.

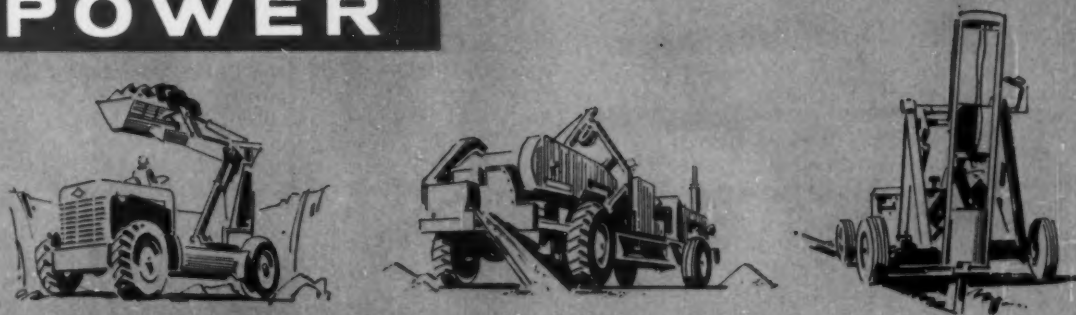
- **Rising Costs**—In spite of this optimism, clouds are appearing on the horizon from a different quarter than supply and demand in square footage. The cost of building materials has recently zoomed upwards. Several builders report the price of structural steel is 30% to 40% higher than a few years back.

This will have to be counteracted by higher rents, of course, which, in turn, can make builders reconsider going ahead with a job. One of the biggest says he made more profit a few years ago with his last building renting at \$5 a foot than he could with a new one

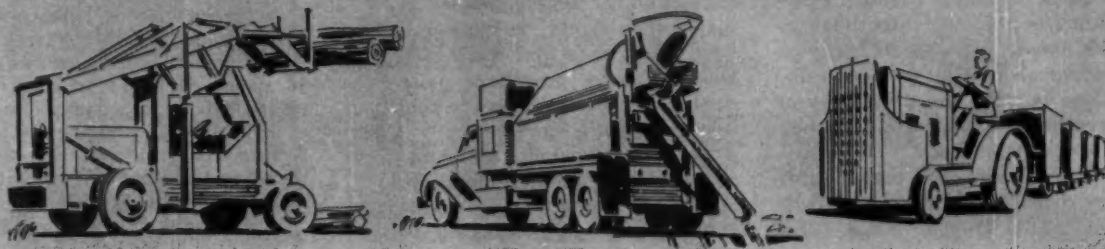
THE PAYOFF



POWER



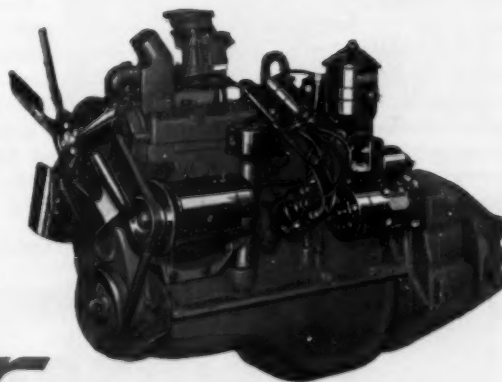
IS CHRYSLER



In the oilfields of Texas and Oklahoma . . .
in the timber country . . . farmlands . . .
industrial areas . . . and on construction
jobs large and small. Wherever big shouldered, hard driving
power is required — there you'll find Chrysler Industrial
Engines at work.

Look around. More and more manufacturers are powering
with Chrysler when they build. More and more users are
specifying Chrysler Power when they buy. Why? Because
both have found that Chrysler produces more payoff power
than any other industrial engine built today.

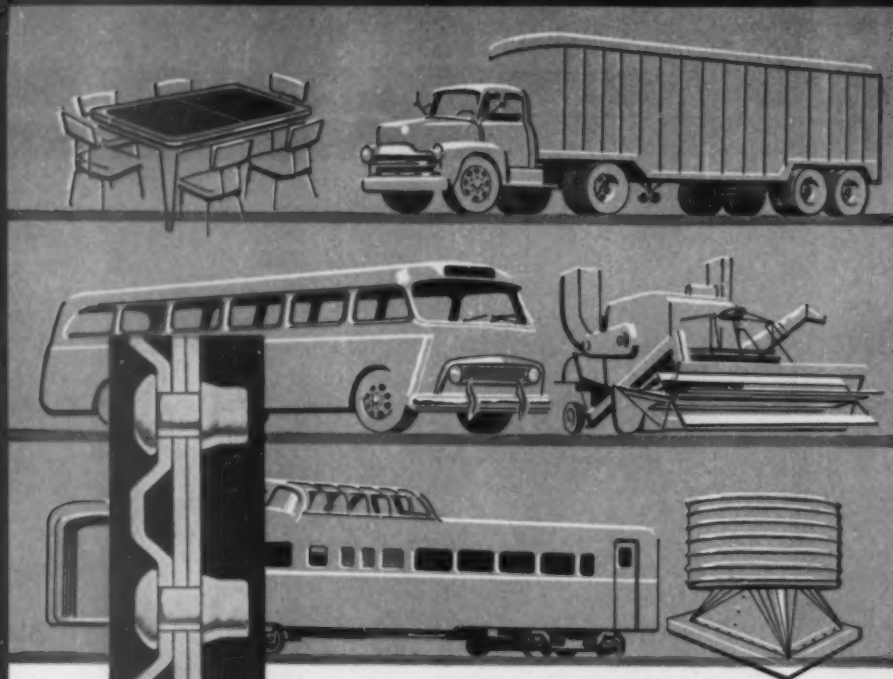
See a Chrysler Industrial Engine Dealer — listed in the
yellow pages of your telephone book — or write for detailed
information: Dept. A-1, Industrial Engine Division, Chrysler
Corporation, Detroit 31, Michigan.



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INDUSTRIAL ENGINES

INDUSTRIAL ENGINE DIVISION • CHRYSLER CORPORATION



You Speed Production . . . Get Uniformly Secure Permanent Fastening With Townsend Lockbolts

The Townsend lockbolt provides a quick method of producing uniformly secure fastenings that cannot loosen even under extreme vibration or shock conditions. They combine the advantages of riveting and bolting—eliminate the disadvantages.

Typical users are manufacturers of railroad cars, highway trucks and trailers, buses, farm equipment, industrial ventilators, and furniture. They find that the use of Townsend lockbolts gives them an opportunity to improve their products—reduce unit costs.

These benefits are possible for several reasons. By use of Townsend lockbolts, fewer and less skilled workers can complete an assembly faster than by other methods because the setting action does not depend upon the

skill of the operator. The clamping action, or tensile preload is higher than rivets—is more uniform than bolts and nuts. The lockbolt makes possible a more rigid joint because it fills the hole better than other fasteners.

Townsend lockbolts are available in steel and aluminum alloy, in $\frac{3}{8}$ ", $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ " and $\frac{1}{2}$ " diameters, in grip lengths ranging up to 2" in various head styles. Other material and lengths available upon request. They are described in Sweet's design file and in Townsend bulletin TL-101.

For a demonstration at your desk of how to get better, economical fastening with Townsend lockbolts, write on your company letterhead to Townsend Company, P. O. Box 237-A, New Brighton, Pa.

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NEW BRITAIN, PENNSYLVANIA

Sales Offices in Principal Cities

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renting for \$6 to \$7 a foot. When Galbreath-Ruffin Corp. announced its new 1.6-million-sq. ft. building on 51st Street recently (BW—Dec. 1 '56, p44) it said top rents would be \$8 a square foot.

• **Tight Money**—Another highly publicized brake on office building construction is the scarcity and cost of credit. To understand the hardship this works, it's necessary very briefly to follow a typical competitive office building from idea to announcement.

First a builder starts sounding out prospective tenants. If these researches prove favorable he begins assembling a plot of ground.

He has to show possible tenants why they should move from their present quarters. When, as often happens, they own their building or are in a comfortable groove, it takes long and arduous salesmanship. Even after months, or even years, the builder rarely gets any definite commitments.

Few companies will promise a builder they will sign a 20-year lease if he should build a certain building in a certain place. He must demonstrate he really will put up the building.

No builders can make such a commitment without money. In the amounts it takes to put up an office building in New York, that means borrowed money.

Lenders, in turn, require some indication of how their money is going to be repaid. Ideally, a lender would like to see the projected building fully rented in advance to Grade A tenants.

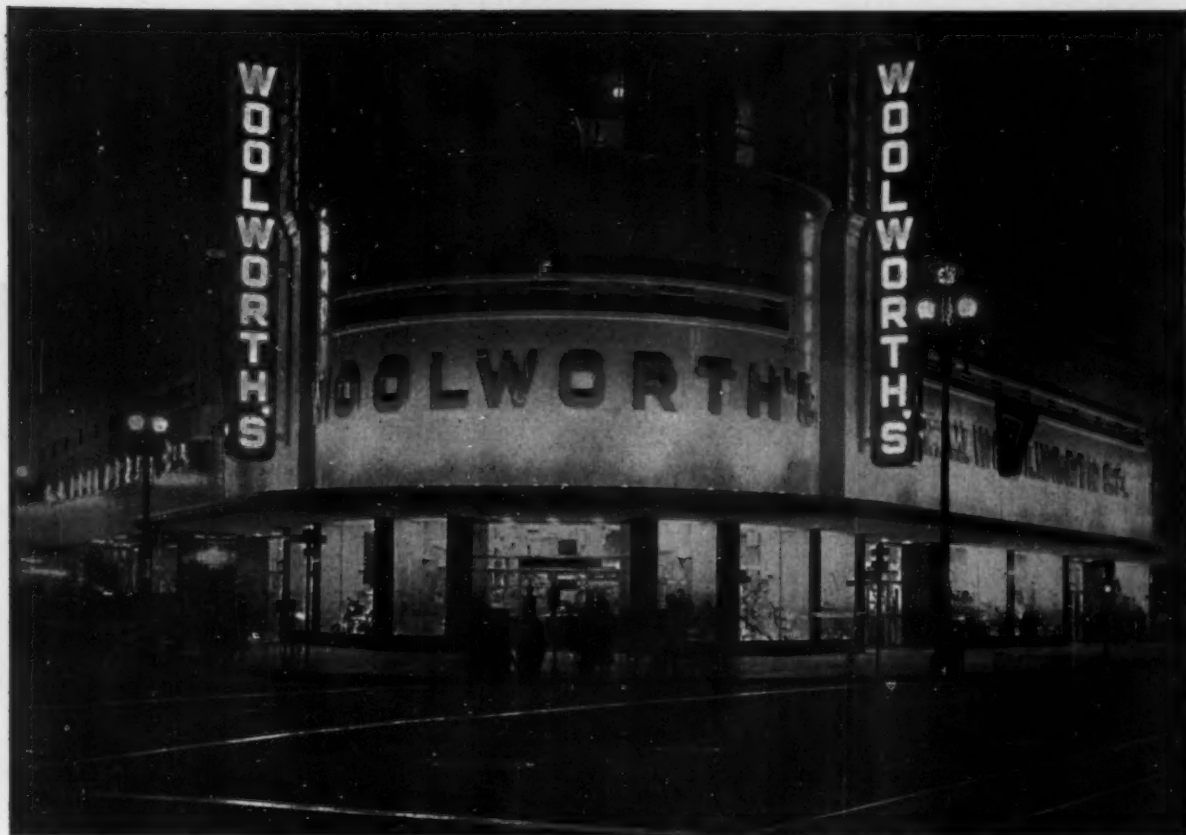
• **Inch by Inch**—Because of this fundamental conflict of interests, a builder can only try to nudge all parties along an inch at a time. Usually institutions lend money with only part of the building rented. But in these days of tight money, lenders can pick and choose.

The builder furthest along in his renting, or with the best history in previous deals, gets what money there is. This undoubtedly puts a crimp in many plans for new offices. It also offers some protection against the kind of overbuilding that New York had 25 years ago.

• **Costlier Money**—Tight money acts as a brake another way, of course. The higher cost of borrowing adds to a builder's over-all cost.

Putting up an office building today is not only more expensive a proposition than it was a few years ago, it's harder for a smaller builder to interest tenants and borrow money.

Several of the city's biggest builders report that brokers are now beginning to approach them quietly with deals. In a typical case the broker's client assembled a choice plot and announced his building to the press. Now he finds he can't go it alone; he's seeking partnership with a bigger builder with more cash, a better credit standing, and more contacts among office seekers. **END**



Electronically-cleaned air makes Woolworth stores better-than-ever shopping places

Long the nation's leading variety chain store, F. W. Woolworth outlets are even better places to shop today — thanks to air that's cleaned electronically. That means it's better to breathe, healthier, as clean as clean can be. And store management gains dividends, too . . . less spoilage, cleaner stocks, more attractive displays *plus* marked savings in clean-up and maintenance costs.

Call your nearest Westinghouse Sales Engineer about the benefits your store or plant can gain with PRECIPITRON — the electronic air cleaner pioneered and developed by Westinghouse. Or write Westinghouse Electric Corp., Sturtevant Division, Dept. 1A, Hyde Park, Boston 36, Mass.

**WESTINGHOUSE
AIR CLEANING**

YOU CAN BE SURE...IF IT'S **Westinghouse**

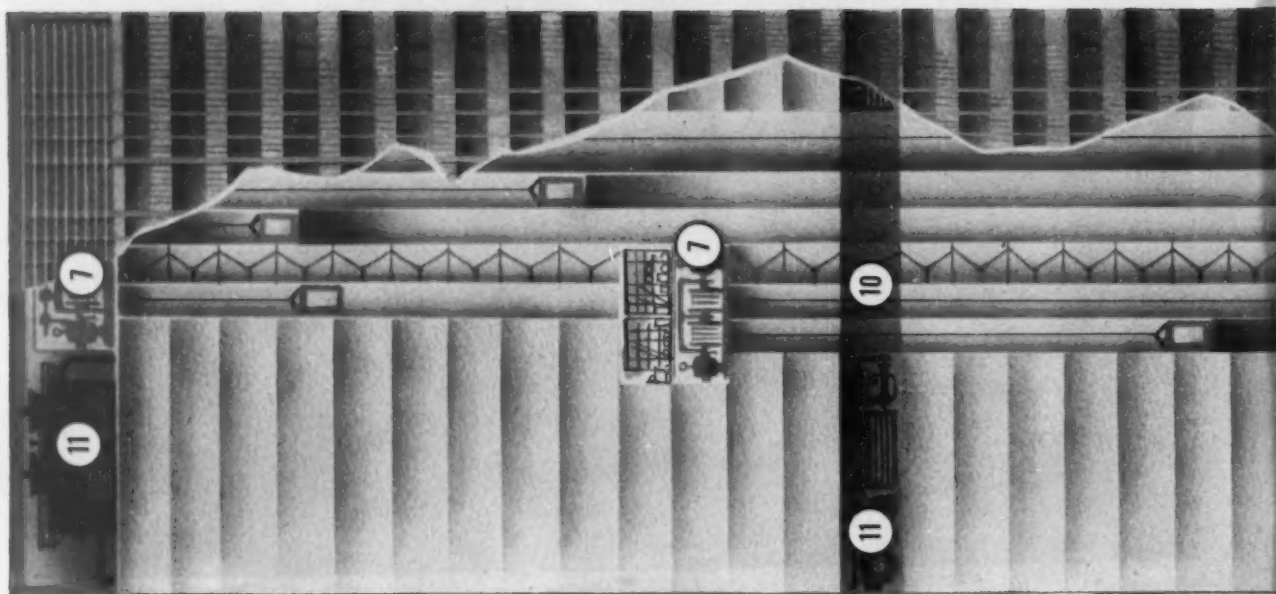


New self-service outlet enjoys PRECIPITRON cleaned air.



CLEAN AIR inside matches modern, clean-cut architectural lines of this new addition to the Woolworth chain.

J-80808



key :

- 1 Electronic controls for elevators
- 2 Storage space
- 3 Moving stairways
- 4 Garage
- 5 Truck loading dock
- 6 Second lobby
- 7 Elevator motors and controls
- 8 Elevator shafts
- 9 Stair shafts
- 10 Machinery floors
- 11 Air conditioning equipment
- 12 Transformers and electrical equipment
- 13 Main lobby
- 14 Street level

Manhattan's New Towers:

New York City has listened 10 years to the steady percussion of the wreckers' hammers, the excavators' drills, the riveters' guns, and from this decade of noisy efforts has come the world's most remarkable boom in construction of office buildings (page 43). From it, too, have come new shapes and new colors for midtown Manhattan, as blocks of tumbledown stores and massive 40-year-old apartment buildings have made way for towers of offices sheathed in aluminum and glass, bronze and stainless steel.

The new shapes and colors are the eye-catchers, the aspects of the boom that give individuality to the architects'

work, that produce the sharply differing characteristics of the city's midtown blocks, that excite almost all the comment.

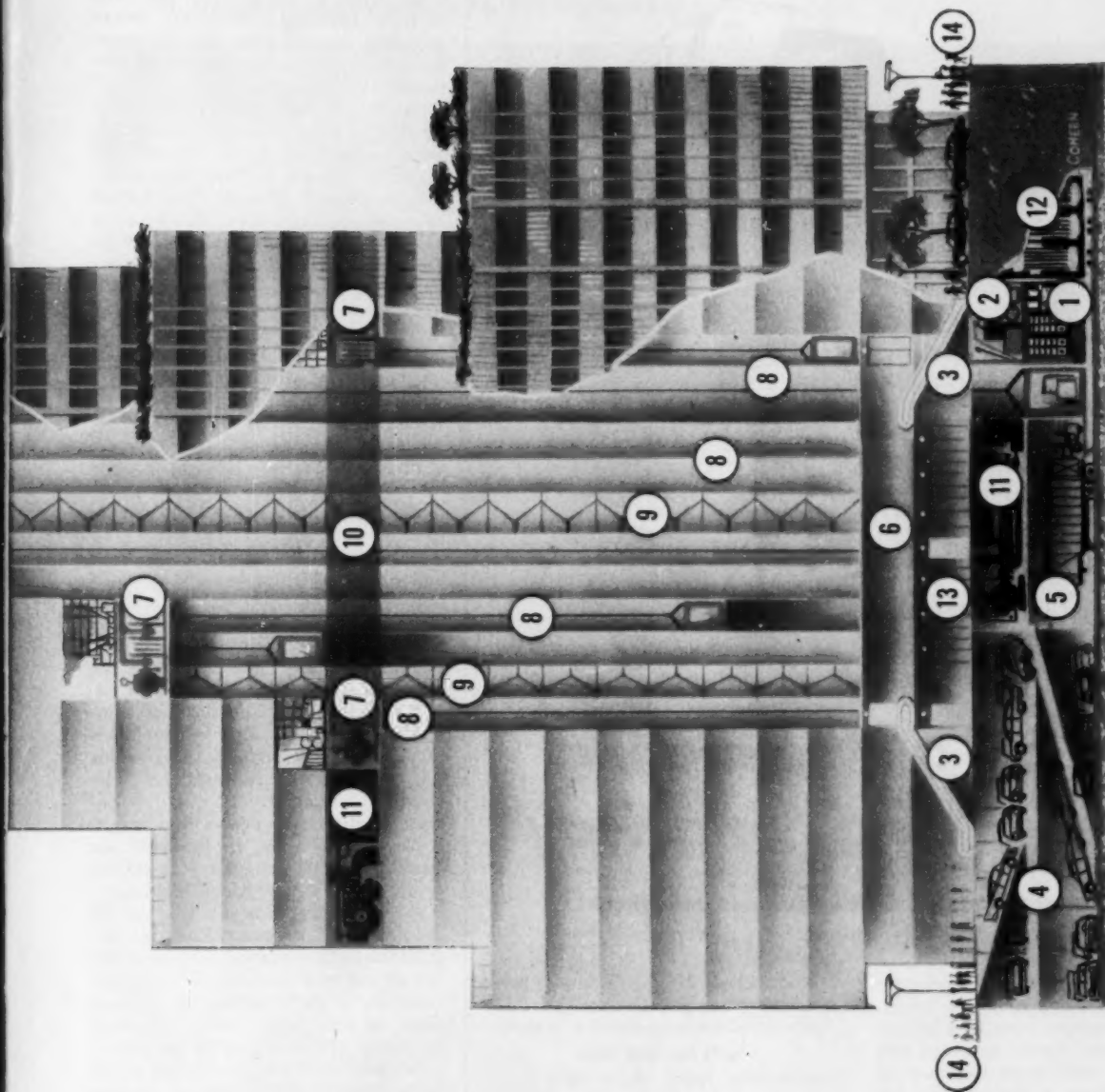
• **World Inside**—But inside the buildings' metal and glass skins, a whole new world has been evolving. It's a world built for work. Shaping it has been the primary purpose of the architects, the engineers, and the corporation efficiency experts. Sure, the corporation chiefs—especially those from the advertising department—beam with pride when there's praise for the facade of the building they occupy. The architects, too, aim as close as they economically can to designs of high quality. The fact remains,

though, that any office building's function is to provide a company with a plant in which its staff may work with maximum efficiency.

The architects and engineers haven't been forgetting that fact. Today's office buildings are being designed so that they will be as nearly as possible precision machines for work.

I. Machinery's Realm

Step into one of Manhattan's new office buildings and you sense right away what has been happening. Just inside the door, a lone man in the uniform of the building company stands



DESIGN FOR WORK—New York City's office workers, surrounded by gently humming machinery, get comfort in the office to boost their efficiency

Massive Machines for Work

beside the banks of elevators. Close by him, set in the wall, is the bright button-studded face of an electronic device. The lone man has charge of the building's elevators, but it's the electronic mechanism that dictates when the elevators will move, how long they'll wait for passengers, how frequently they'll make their trips. And if a passenger interferes with the elevators' pre-planned system of operation, it's a recorded message delivered by the device, not the voice of the elevator man, that will bawl him out.

Elevators like these—machines that travel more than 1,000 ft. a minute and are used to pick up and deliver passen-

gers at the top dozen floors of a 40- or 50-story building—have a price tag of around \$85,000 each. An elevator used for similar work, but operated manually, comes at around \$60,000. The \$25,000 difference looks much less significant when you consider the fact that the electronically operated elevator never takes time off for lunch, never throws the traffic pattern out of whack at midafternoon coffee time.

• **Machines Take Over**—For reasons like this, Manhattan's new offices are being filled with increasing quantities of increasingly expensive machinery. Just six years ago, the cost of producing and installing an office building's me-

chanical equipment averaged 25% of the building's total cost. Since then, machinery prices have climbed, but so have construction costs. And now, the cost of mechanical equipment runs to about 40% of an office building's total cost.

In the plans for new buildings, these facts are recognized. To accommodate all the necessary machinery—elevator motors, air conditioning, electrical transformers, plumbing, wiring, heating equipment—owners of new buildings have had to give up increasing areas of space they could otherwise have rented.

Architects used to be able to tuck away all of a building's machinery in a basement or sub-basement and in a



By air a little crating goes a long, long way

Clipper Cargo flies Office Machines throughout the world—cuts weight, time and costs

From ballpoint pens to electronic computers, makers of office equipment are constant users of Clipper* Cargo. Despite lighter packing and little or no crating in the case of heavier machines, Clipper Cargo can assure preferred, damageproof handling right down the line. And arrive weeks faster than by surface.

Costly, troublesome delays are eliminated when you choose Clipper Cargo

because all shipments move on a predetermined schedule through Pan Am's world-wide reservation system.

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For a Cost Analysis, without obligation—to see how you can profitably use Clipper Cargo for your shipping needs—call Pan American, your shipping agent or forwarders today.

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tower right at the top. In the early postwar buildings, machinery began spreading beyond that allotted space. Since then, it has been expanding continually.

In the United Nations Secretariat building, for example, machinery occupies almost all of three intermediate floors. In Union Carbide & Carbon Corp.'s planned 50-story Park Avenue headquarters, three floors, two of them near the center of the building, will be filled with machinery. In their plans for Time, Inc.'s new building near Rockefeller Center, architects Wallace K. Harrison and Max Abramovitz have assigned most of two intermediate floors for machinery. Much the same applies in their plans for a 60-story \$60-million office building across the Avenue of Americas.

• **Price of Comfort**—The big bugbear of the machinery rooms is air conditioning. It's expensive to build, to install, and to operate; its ducts consume large areas of space. But in Manhattan's postwar office-building spree it's reckoned a vital necessity. It has been installed in every one of the major postwar buildings. Probably no new office building could be financed, let alone rented, if it weren't air-conditioned.

The architects curse it because it interferes with the clean interior lines they design. The engineers dislike it for the complexity of its operation. The building contractors don't like it because of the labor cost of installing it. It cost \$4.30 a sq. ft. to install air conditioning in the rentable 14-million sq. ft. of the Socony Mobil building.

All the time the search goes on for simplicity and economy in design, installation, and operation. The chief object of much of this research is to get rid of the air ducts that occupy so much space on each floor. One of the most promising of the engineers' projects is a method for heating or cooling offices by warming or chilling ceilings that are made up of metal panels. The panels, packed with acoustical material, would serve as noise deadeners as well as air conditioners. Pipes carrying either hot or cold water would run between the panels, and their temperature would be conducted to the panels.

This research goes on for one major reason: Just about everybody agrees now that air conditioning boosts the efficiency of office workers, so it must be a component of every modern office building.

That same pressure forces much the same kind of search for efficient efficiency-producing machinery from top to bottom of the new buildings. The search takes some odd turns, comes up with almost-forgotten as well as brand-new devices.

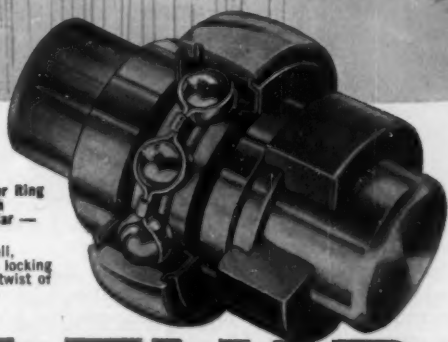
• **Getting Up**—One of the prime openings for disruption in any tall building

An attitude and an aptitude for solving bearing problems . . .

VIBRATION



Fafnir Wide Inner Ring
Ball Bearing with
Self-Locking Collar —
easiest of all
bearings to install,
provides positive locking
to shaft with a twist of
the wrist.



FAFNIR

BALL BEARINGS

It's **inherent** on the Sickle Pitman Wobble Drive mechanism of a farm machine. *Vibration* can't be avoided when rotary motion is translated into reciprocal motion, needed to shuttle the cutting blade back and forth. Under such conditions, how would you keep an anti-friction bearing from shaking loose?

Fafnir had the answer in its Wide Inner Ring Ball Bearing with Self-Locking Collar. A test was set up for a leading manufacturer of farm equipment to impose simulated load conditions upon the bearing. At the end of the test — a grueling 500 hours — the collar and bearing were securely locked to the wobble plate and required moderate tapping for removal.

The self-locking collar may be only of passing interest to you. But Fafnir's "attitude and aptitude for solving bearing problems" — *that's* worth bearing in mind. The Fafnir Bearing Company, New Britain, Conn.

MOST COMPLETE LINE IN AMERICA



is the elevator system. The new electronic, operatorless elevators may not be friendly mechanisms—the office girls and the old timers may miss their opportunity for morning bantering with the elevator operators. But these machines do produce speed and efficiency.

By adding a few costly extras, office building planners see more good opportunities for savings in time and gains in efficiency. They're proposing that if a large company takes 10 or 15 floors in a major office building, the building should have a second lobby. In the morning rush hour, the office staff of that company would take elevators run specially for them from this lobby.

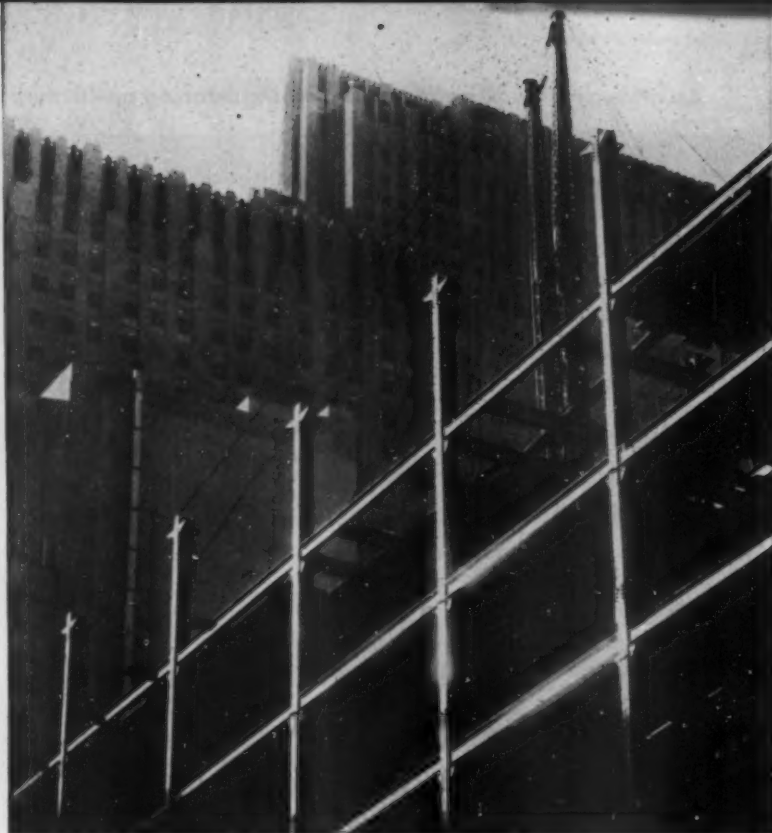
The planners have ideas for eventually using this second lobby for even speedier transportation of a building's population. They're trying to find means of operating double-decked elevators. You'd get an elevator in the main lobby to go to odd-numbered floors, in the second lobby to reach even-numbered floors. But architects and engineers admit a host of bugs must be worked out if this idea is ever to become practicable.

If you think they're dehumanizing the office building, you won't be consoled by other ideas that the architects and engineers are ready to use.

• **Old Ideas, New Faces**—Some of these ideas hark back to the past. For instance, the old dumbwaiter and the pneumatic tube conveyor—which you may think died out a decade before the nickel subway ride—are being resurrected in new, automated forms.

The dumbwaiter comes back under the name of vertical conveyor. Boxes of mail and memos travel on an endless belt installed in the wall of the building. On each floor are openings through which these boxes are received and sent. There's also a numbered dial on each floor. You set the dial to the number corresponding to the floor to which you want the box of mail delivered. An electric relay takes over, activates trips on the bottom of the mail box and at the point where the box is to be delivered. Carriers on the endless belt whisk the box away, dump it out at the correct floor.

The pneumatic tube comes back with similar electric circuits built into it. In the old days, messages sent through pneumatic tubes had to go from one office to a central station before they could be sent on again to another office. In the new style, circuits and relays take charge. The mail and memo carrier is fitted with calibrated bands, like the time fuse calibrations of an artillery shell. You set these bands to the number corresponding to the destination you want. At a central point in the pneumatic tube system, an electric relay "reads" the destination, switches the carrier into the proper tube.



ROCKEFELLER CENTER, long New York's newest group of office buildings, frames in masonry the steelwork of a 38-story structure that will have an aluminum skin.

The purpose of both these systems: to speed communications, to reduce the load on an office building's elevators, to save labor. Architects Harrison & Abramovitz and engineers Syska & Hennessy have proposed a \$240,000 endless belt mail conveyor in 32 floors of a 49-story building to be put up in the west side of the Avenue of the Americas. Engineers estimate that in this building, the system will cut sharply the load on the elevators, perhaps even save space in elevator shafts. Another, less tangible, saving: time wasted by mail room and secretarial staff in chattering together after each mail delivery.

Some of the architects' and engineers' efficiency ideas are aimed at the higher rungs of the office. Now they're pressing plans for inter-office closed-circuit television. This would connect the executives' offices, would reduce the time spent by executives who are driven to confer too often with their colleagues.

II. Planning for Work

Not all these refinements appear in all the new office buildings, nor in all parts of a new building. The amount and type of machinery that surrounds the workers in a new office building depend pretty much on whether the building is occupied by one company,

by just a few companies, or by a lot of different tenants. On that, too, depends the architect's approach to his design.

For the job of planning the Chase Manhattan Bank's new downtown headquarters—a 60-story \$121-million structure to be completed late in 1959—architects Skidmore, Owings & Merrill worked with Chase's own management experts to trace exactly the flow of paperwork and office routing through the bank, then helped develop changes in the flow that would boost efficiency in the new headquarters. The building was designed precisely to Chase's needs. The same approach applied to planning of Lever House, and it's being used, too, in designing Union Carbide & Carbon Corp.'s Park Avenue building.

But most of the office space going up in Manhattan is planned for rental to many tenants, not for ownership by a single occupant. So the architect's approach must change. If just a few companies are going to share the building he can still plan to some degree for their specific needs. But when a host of tenants are to move in, the architect has to generalize his planning, give them machinery that can economically be supplied. This varies from building to building, but it always includes air conditioning, speedy (and now operatorless) elevators, and electrical

It's a blue Monday for Miss Merkel...



Weeks ago she tore a cartilage in her knee. Still very painful. Now, the Doc says, "We'll have to operate!"



Not so serious. But Miss M. will miss work. Maybe salary. Also the cost of the operation. Upset? Of course!



Poor girl. She must have forgotten she has group insurance. Could be, no one ever told her. Needless worry!

but Miss Graham's going great guns!



For she never worries over hospital bills. Her employers have B. E. U. with their Connecticut General group insurance. Miss G's covered!



And she *knows* it...knows just what her group insurance will do for her. B. E. U. means Better Employee Understanding of group benefits.



See the big difference B. E. U. can make? For *you*? Sure! Ask your insurance man or Connecticut General Life Insurance Company, Hartford 15.

Borden's, The Stanley Works and Chance Vought Aircraft, Incorporated all have custom-planned Connecticut General group insurance. What could be better for you?



CONNECTICUT GENERAL

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Bronze bearings put squeeze on high cost of rolling

Hour after hour plenty of money, in the form of expensive ingredients, squeezes through the mammoth cylinders that roll out linoleum. Even a few thousandths of inch variation in product thickness can skyrocket costs.

That's why one of the nation's largest linoleum makers recently switched from expensive, hard-to-maintain roller bearings to the economical, long-lasting bronze bearings developed by our National Bearing Division. In this severe calendar roll service, these precision bearings maintain accurate linoleum thickness while transmitting many tons of pressure . . . day in, day out.

For vital machine parts that must not fail, engineers in many industries rely on the custom products of American Brake Shoe. Indeed, Brake Shoe's specialty is the field of "punished parts"—critical machine components that must withstand exceptional abuse from friction or abrasion, heat or impact. If vital parts in your own products should cost less or last longer, it may pay you to consult American Brake Shoe Company, 230 Park Avenue, New York 17, N. Y.

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Dominion Brake Shoe Company

Manufacturers of
Component Parts
for Industry

Brake Shoe

wiring extensive enough and heavy enough to take care of the high and constantly growing demand.

• **Skins for Offices**—Around all this carefully planned interior goes the more obvious part of the architect's work—the skin of the building. Nobody needs to be told that this has changed sharply in the last few years as the new offices have been clad in metal and glass instead of masonry.

Once again, the purpose of the change is economy and efficiency. The new metal and glass wall panels come to the building site prefabricated, with hooks built in for attachment to the steel frame of the building. The panels are space-savers, too. Their thickness varies from building to building, but generally they add 8 in. or 10 in. to usable space on each floor.

Often, windows come built into these panels, and this brings another saving—the joints are flush and let in little outside air to cause air conditioning and heating systems to work overtime.

III. Question of Style

Today, it's generally the taller and higher grade buildings that are sheathed in glass and metal skins. These are the buildings that combine a squat eight or 10-floor base with a 30- or 40-floor sheersided tower. The opposing style of office building is the Ziggurat type (so called for its resemblance to a Sumerian temple), whose walls are set back progressively as they reach higher above street level.

Both styles are byproducts of New York City's building code. This code demands that the walls of tall buildings be set back from the sidewalk to let light and air into the street. It also says that the area of a tower may be no more than 25% of the area of the plot of land on which it stands.

• **Which to Pick**—The size of the plot is usually the most important factor determining whether a tower or gradual set-back type of building is to be built. The set-back or Ziggurat type makes maximum possible use of the land, without attaining skyscraper dimensions. The towered building must teach higher if it's to supply as many square feet of office space.

A tower that's 25% of a small plot is, relatively speaking, so full of elevator shafts and stair well, it's uneconomical. A Ziggurat on a big plot requires enough extra steelwork and weather-proofed terracing to make it less economical than a tower.

Architects, tenants, and the general public who find towers more impressive, can take heart from the trend in their direction. More big buildings on big plots have been announced recently than little ones (page 43). **END**



Punching electric motor laminations at 675 strokes per minute with Kennametal K92 die and punch.

KENNAMETAL HELPS SALES WITH SPEED GRAPHIC PHOTOS OF PRODUCT APPLICATIONS

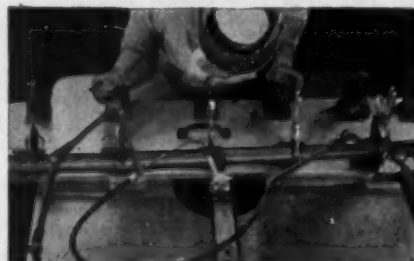
Kennametal Inc., of Latrobe, Pa. manufactures cemented carbide cutting tools and Kennametal parts for machines and processing equipment. These products are much in demand because of Kennametal's extreme hardness and resistance to abrasion, deformation, deflection and corrosion.

As an integral part of Kennametal's selling effort, printed performance reports or case histories showing unusual or unique applications of Kennametal's tooling on production jobs are mailed twice a month to approximately 30,000 names. These case histories are illustrated with Speed Graphic pictures, taken in the plant and in the field. They also serve to illustrate company brochures, technical articles and space advertising. Two Speed Graphic-equipped photographers are kept busy satisfying Kennametal's picture needs.

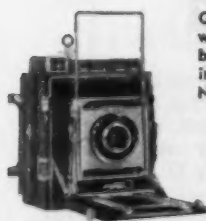
Kennametal originally chose Speed Graphics because of their reputation for dependable, trouble-free service under all conditions. Years of use and literally thousands of pictures have proven the wisdom of this choice. Here are some samples of Kennametal's Speed Graphic photography.



Sturdy Kendex tooling to provide increased productivity at lowest cost. "Throw away" inserts provide eight cutting edges per insert—eliminate all grinding.



Profile milling edges of 155-inch SAE 4340 aircraft closure ribs on spindle shaper with 1 1/4 inch diameter Kennametal three-flute end mill.



Graflex-made cameras and equipment are ready to go to work for you. Write on your business letterhead for free brochure on money-saving uses of Graflex-made cameras in industry. Address Dept. BW-12, Graflex, Inc., Rochester 8, New York.

GRAFLEX

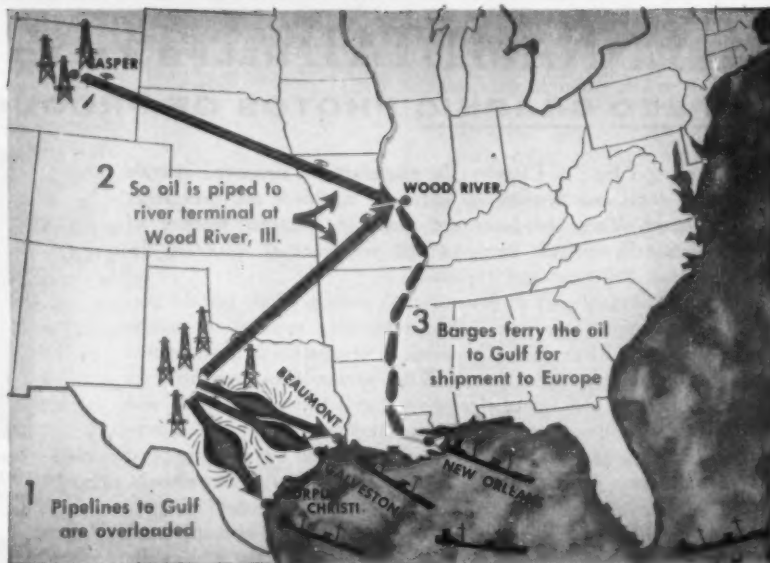
Prize-Winning Cameras

A SUBSIDIARY OF





MANPOWER for reactivated tankers is at a premium. Left, naval officers who will staff navy tankers from mothball fleet are briefed aboard Standard Oil of California tanker W. H. Berg.



TRANSPORTATION is jammed on direct routes from West Texas to the Gulf, so oil takes the long way around (right). Some of it even goes by pipeline back to Texas ports from New Orleans area.

The Oil Lift Picks Up Speed

The training of naval officers to man de-mothballed tankers (picture) and the novel pipeline-to-barge operation to move crude oil to tidewater (map) have a common bond. Together, they're efforts of the oil industry to buck two of the barriers to the oil-to-

Europe program—lack of manpower and over-taxing of domestic pipelines.

The over-all problem, of course, is clear: Western European nations, now in their peak demand season, are crying for petroleum. The cut-off of supplies from the Middle East has already

reduced industrial production by 25%. To maintain even this degree of production, Europe will need at least 500,000 bbl. a day and, if possible, 1-million bbl., from U. S. producers. The added production is no trick to get. Transportation is the problem,



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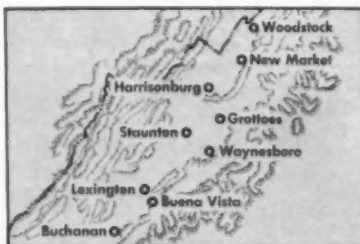
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both within the U. S. and on the high seas.

• **Lagging**—Thus far, U. S. shipments of oil to Europe are under par. Latest figures place shipments of crude oil and products at around 581,000 bbl. a day. That's barely above the minimum goal of 500,000 bbl. a day, and it's far short of the hoped-for 1-million bbl. a day.

Oilmen say they've been plagued by the manpower shortage and tightness in pipeline space, along with other problems. But they claim they've licked some of the problems, and they look for the oil lift to pick up.

• **Long Way Around**—Take the pipeline situation, for instance. Regular pipelines that carry oil from West Texas fields to Gulf ports are jammed because of the extra loads. So oilmen have rigged up some new methods to supplement the normal flow.

The pipeline-to-barge operation is one of those ways. This is how it works: Oil from West Texas, Oklahoma, and Rocky Mountain fields is piped northeastward (map) to the Mississippi River terminal at Wood River, Ill., just above St. Louis. It's then hauled by barge down the Mississippi, some 1,300 mi., to Gulf ports for transshipment to Europe by tanker. Most goes out of New Orleans and nearby ports, but some is actually piped back into Texas for loading on tankers.

It means about 30,000 bbl. a day more crude for tanker transshipment.

• **Barge Bottleneck**—The big gimmick in this "Texas-to-Texas" operation is finding enough barges that can handle crude oil. A barge that hauls refined products can't haul crude without expensive cleaning each trip. So the barge firms are utilizing barges that normally ferry low-grade bunker "C" fuel oil to Northern steel mills.

Usually these barges return from the mills without loads. Now they'll double back to Wood River, pick up the crude and haul it down the Mississippi, the water-starved river permitting.

The added transportation costs are secondary at the moment, say oilmen. It normally costs somewhere around 24¢ a bbl. to pipe oil from West Texas fields to Gulf ports. The pipeline-to-barge operation will boost the figure closer to 43¢ a bbl.

• **More Pipelines**—This "Texas-to-Texas" operation is only one of several makeshift means of increasing crude deliveries to the Gulf Coast.

Gulf Oil Co. reopened a stretch of Texas pipeline, closed for some 25 years, that will bring about 25,000 bbl. a day to Gulf ports. Service Pipe Line Co. installed two portable pumping units to boost throughput at one of its stations and has added two new permanent stations. Magnolia Pipe Line Co. is reactivating an old 8-in.

line to help relay West Texas crude. This will add some 15,000 bbl. a day to Gulf deliveries.

Some oilmen feared that all this additional crude would strain storage space at the Gulf ports. But Esso Standard Oil Co. reopened its Avondale marine terminal at New Orleans, allowing for more flow into this ocean port.

• **Training Crews**—The manpower shortage was another headache at the start of the oil-to-Europe program. And it still isn't completely solved. Seamen, particularly, are at a premium. But the oil industry is hard at work here, too. Standard Oil Co. of California, for example, gave a three-day briefing to naval officers and crew members. These officers and crew will handle 10 de-mothballed tankers, formerly laid up in western waters.

The tankers will be operated by the Military Sea Transportation Service, which, to get the Suez "go-around" started, called on Standard Oil to supply emergency indoctrination. Petroleum cargo specialists conducted the classes—some in Standard's downtown San Francisco offices, some aboard the company's T-2 tanker, W. H. Berg (picture, page 58).

Even the critical tanker shortage has eased, ever so slightly, under the pressure of the oil and shipping industries. Most of the oil companies with shipping fleets have focused on supplying oil to Europe. And the U. S. chipped in by readying 39 tankers from its reserve fleet.

• **Allowables**—With this improved physical scene, most oilmen took in stride the Texas Railroad Commission's decision (BW—Jan. 5 '57, p38) not to hike its production schedule.

The Middle East Emergency Committee had counted on increased Texas oil in January. It had hoped that this would have brought the goal of 500,000 bbl. a day to Europe within reach. But the commission went along with the producers, mainly independents, who contended that before the production schedule should be hiked, crude oil stocks above ground should be reduced.

In refusing to increase allowable production beyond the 16-day level, the commission called attention to a monthly debate in the oil industry. Only this time the pros and cons were more black and white than shades of gray.

• **Argument**—For years, the Texas Railroad Commission has prorated the market among the state's producing districts. The largest share of the state's reserve producing capacity exists in West Texas, where transportation problems are the worst. Producers in areas easily accessible to Gulf ports argued that the proration policy should be

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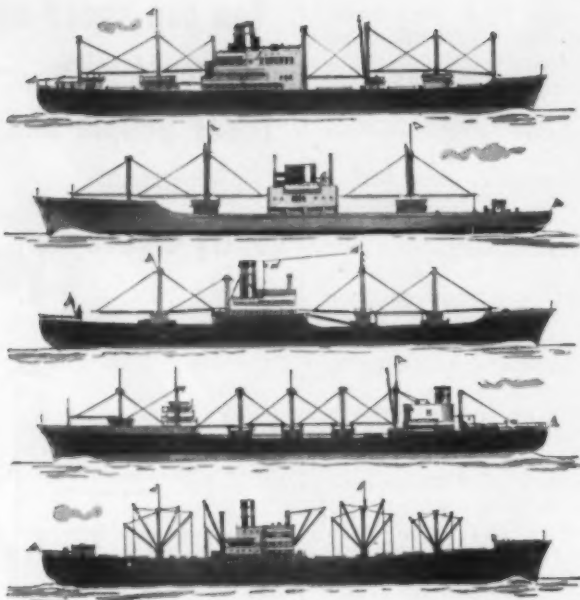
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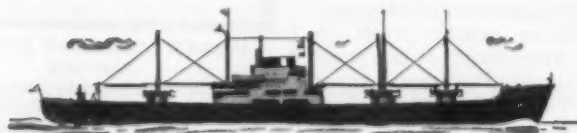
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A division of U. S. Industries, Inc.,



suspended in January, but they were turned down.

That wasn't the only argument involved. A few major purchasers advocated an 18-day flow, which would have increased permissible flow by 301,000 bbl. a day. The main body of producers called for a 17-day flow, but independents and a few other producers held out for 16 days, the same as December. The commission went along with them.

• **Stocks Aboveground**—While Western Europe thirsts for oil, the U. S. oil industry is shaving its huge surpluses of crude, gasoline, and distillates (BW—Nov. 3 '56, p197). The industry has been able to cut much of the hoard recently. Crude stocks are now only 2-million bbl. above those of last year, but gasoline stocks are still about 20.5-million bbl. above last year's.

The hope now is that stocks of crude and all principal products, except gasoline, will be at or below desired levels by the end of the first quarter.

• **Rising Prices**—The effect of the stepped-up flow to Europe is already being felt by the oil industry, but the big impact on the public undoubtedly lies ahead. It's seen domestically in the push on prices.

The 25¢ to 45¢ a bbl. price boost on crude introduced last week by Humble Oil & Refining Co. was not unexpected.

Demand for crude is going up rapidly, what with winter's seasonal demand and Europe's industrial needs. The shift in domestic supply movements is adding transportation costs, too, along with the recently announced railroad increases. And refinery costs are higher now.

Added to these pressures was the fact that crude prices had remained constant since the 25¢ a bbl. increase posted in mid-1953, while production costs had skyrocketed.

• **Development Cutback?**—The impact may show, too, in another way that's more vital to all oil producers and consumers. There's talk that the Arabian American Oil Co. (Aramco), along with other major companies, is making revisions in its multimillion-dollar development plans in the Middle East. Aramco denies the rumor, but there's still food for thought.

It's plain that the companies are worried about two factors:

• They have seen how trouble can hit their export capacity, and getting the oil out—not producing it—is the key problem in the lush Middle East oil region.

• They're fidgeting about possible oil expropriations by Middle East countries.

Under these circumstances, any slowdown in spending plans might be the forerunner of a whole new pattern of oil development. **END**

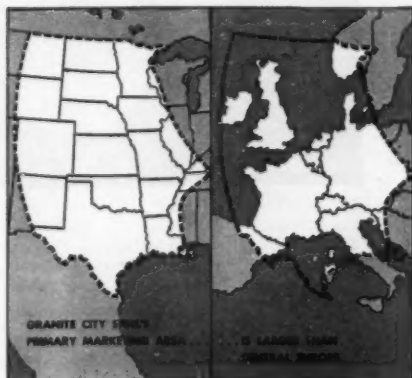
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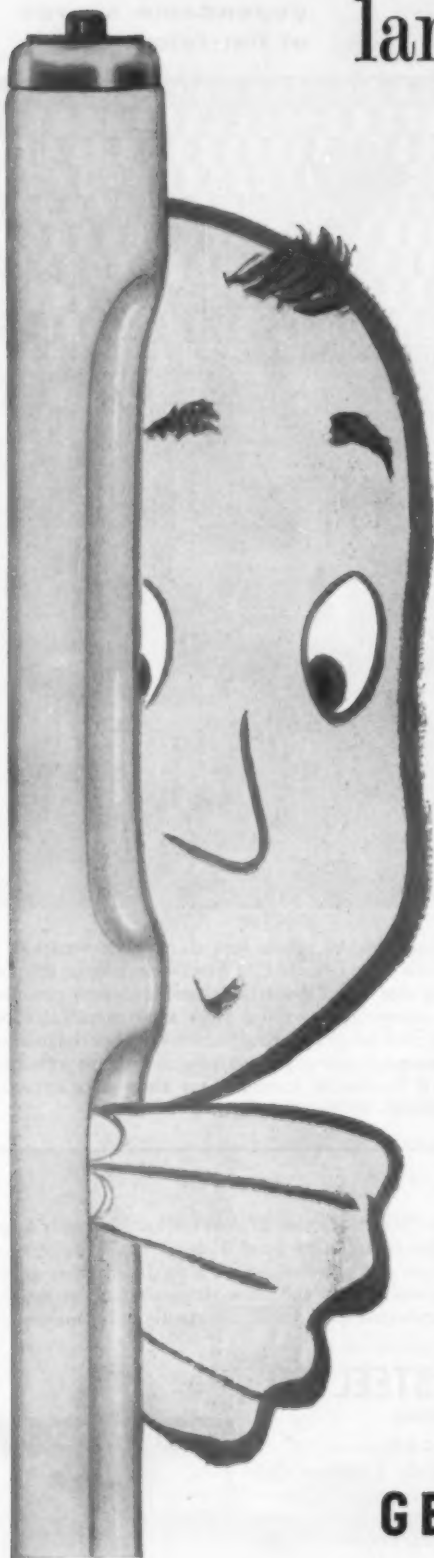
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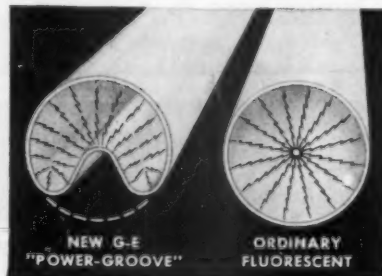
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COMPARE! The new G-E "Power-Groove" construction (left) works 3 ways to give more light. One: it places some of the light-producing phosphors closer to the energizing area in the center of the lamp. Two: it presents a greater surface area which permits the generation of more ultraviolet rays to activate the phosphor. And three: it makes the lamp run cooler—which permits a higher current design and gives you more light per watt.



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New Strategy: Organize Piecemeal

- AFL-CIO had high hopes of recruiting new members in droves; instead advances came in dribs and drabbles.
- So for this year, mass organizing tactics are being ditched in favor of a small-scale piecemeal approach.
- While they no longer look for spectacular gains, union leaders expect to improve postwar organizing record.

One of the great hopes of the merger of the American Federation of Labor and Congress of Industrial Organizations just over a year ago was sweeping millions of unorganized workers into the labor fold.

Architects of labor unity believed that combining the strength, money, and talent of the two organizations would provide the energy and climate for giant organizing strides. The talk, at the time, was of doubling the merged federation's 15-million membership.

• **Shattered Illusions**—Now, 13 months later, AFL-CIO leaders are convinced that the merger set up no formula for a wholesale organizing advance. The record to date has dashed such illusions.

The success of the AFL-CIO's organizing division, headed by John W. Livingston, can be summed up this way: The days when thousands of workers can be signed up as union members in one great swoop are over; today's 18-million unionists—including 3-million in independent unions—represent no greater percentage of the total labor force than union members did in 1945.

I. The AFL-CIO Record

Since then, organization has averaged only 200,000 new members a year. Union officials won't estimate the 1956 advances, but they admit that new members came only in dribs and drabbles. Livingston's main effort to break into the textile South was a failure. A rundown of some of the targets and the results indicates almost a rout:

• Twenty organizers were assigned last July to 30 plants of Burlington Industries, Inc., in Roanoke, Alta Vista, Galax, and Radford, Va.; Chattanooga, Tenn.; and Greensboro and Charlotte, N. C. Today's score: employed, 18,000; represented by AFL-CIO Textile Workers; 0.

• A dozen organizers took on the Cannon Mills Co. in Kannapolis, N. C., and Pepperell Mfg. Co., with 7,500 employees at plants in Georgia and Ala-

bama. Score—union representation victories, 0.

• Twenty-two chemical plants were chosen as targets and divided between the Oil, Chemical & Atomic Workers and the Chemical Workers Union. To date: one election victory in a chemical plant in Picayune, La.

• R. J. Reynolds Tobacco Co., Winston-Salem, N. C., became the primary AFL-CIO target in the cigarette field. It is still non-union, although the P. J. Lorillard Tobacco Co. plant in the same region was signed up.

Most of these companies were on organizing lists long before the AFL-CIO merger, and had been noted for their resistance to unionization overtures, so the light returns for unions were not a complete surprise.

• **Small Gains**—In some cases, unions have showed gains in the past six months; Paper organizing is going well. Woodworkers are being signed up in Texas and Arkansas, although not in South Carolina. But these gains have been small and scattered. The big companies that have resisted so long are staying outside the union fold.

AFL-CIO organizers blame their lack of success on several factors. Internal rivalries between unions that must be settled before AFL-CIO will assign organizers to their jurisdiction are almost as strong as at merger time. The two chemical unions, for example, can't agree on dividing the giant chemical chains so no approach is being made with AFL-CIO help at du Pont or other similar companies.

The civil rights issue is holding back some organizing programs in the South, though it has not proved so big an obstacle as AFL-CIO feared.

• **"Too Good" Economic Climate**—The economic climate is too good to entice many workers into unions. Textile workers, says an organizer, remember the days when their paychecks were just a quarter of today's wages. They don't want to risk upsetting things by joining a union.

The Taft-Hartley Act's free-speech

provisions and other rules for effective employer resistance are other factors cited by organizers. The Textile Workers won an election at the Darlington Mfg. Co. plant at Darlington, S. C., but the company closed down rather than bargain. The National Labor Relations Board will hear an unfair-labor-practice complaint against the company next week.

• **Race to Keep Even**—In most cases, while organizers may get the required 30% of the workers in a plant to sign an NLRB petition for an election, they can't get the majority in the balloting that is needed to win bargaining rights. So, just to keep 25% of the nation's workers in the unions, organizers have had to run the treadmill to keep up with the increase in employment. At the same time, wage gains made by unions at the bargaining table have lifted pay from \$1.50 an hour to \$2.

Since the union paycheck total is more important than the number of members to their constituents, labor leaders aren't panicky about the organizing record. Wage gains have pushed this total way up. So no one high up is going to be fired for lack of success in recruiting new members. But the failure rankles.

II. Change of Pace

More than that, there are factors that are leading—and in some cases forcing—labor into a new-type organizing campaign, setting a slower pace for organizers and, here and there, new targets.

Changing pace and policies may result in greater success in the future. The theory of mass organizing has been set aside, at least temporarily. This does not mean that the AFL-CIO organizing program is being curtailed. It is being redirected.

• **Good Old Days**—The last big membership sweep came just before and during World War II when 6-million workers were added to organized labor's ranks. New members piled up as the CIO movement swept giant steel, auto and rubber industries, and were enough to double union labor's ranks.

In a sense, these dramatic victories colored the union's organizing policy from then on. A follow-up effort to unionize the textile industry in the South, known as "Operation Dixie," was an attempt at a clean-sweep in the late 1940s. It got nowhere.

From that point on, CIO and AFL battled each other for members, prima-

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rily among workers already organized. Demands for no-raiding pacts came thick and fast. Raiding virtually ended with the AFL-CIO merger 13 months ago. And after that, the organizing chant was heard once again.

• **Facing Facts**—Now, AFL-CIO organizers are no longer boasting, even wishfully, of a soon-to-be unionized South, or of a quick breakthrough and roundup of textile workers, oil industry employees, or white collar workers in any field. All of these non-union areas are still targets. But union leaders are taking a let's-face-the-facts attitude. They will be satisfied to pick up new membership piecemeal.

Says one union official: "This may not be the time for wide-scale expansion, doing it step by step in small-scale organizing can be just as good." This attitude shows up even in a union such as the aggressive 1.3-million-member Brotherhood of Teamsters, which notes that it has picked up 40 members in a southeastern Maryland cannery. There was a time when Teamsters Pres. Dave Beck wouldn't have crowed over any success of less than 1,000 new recruits.

In the small-scale organizing approach even small pockets or workers in smaller companies of non-union workers in larger ones won't be passed by. The feeling now is that these smaller groups can accumulate into a substantial total.

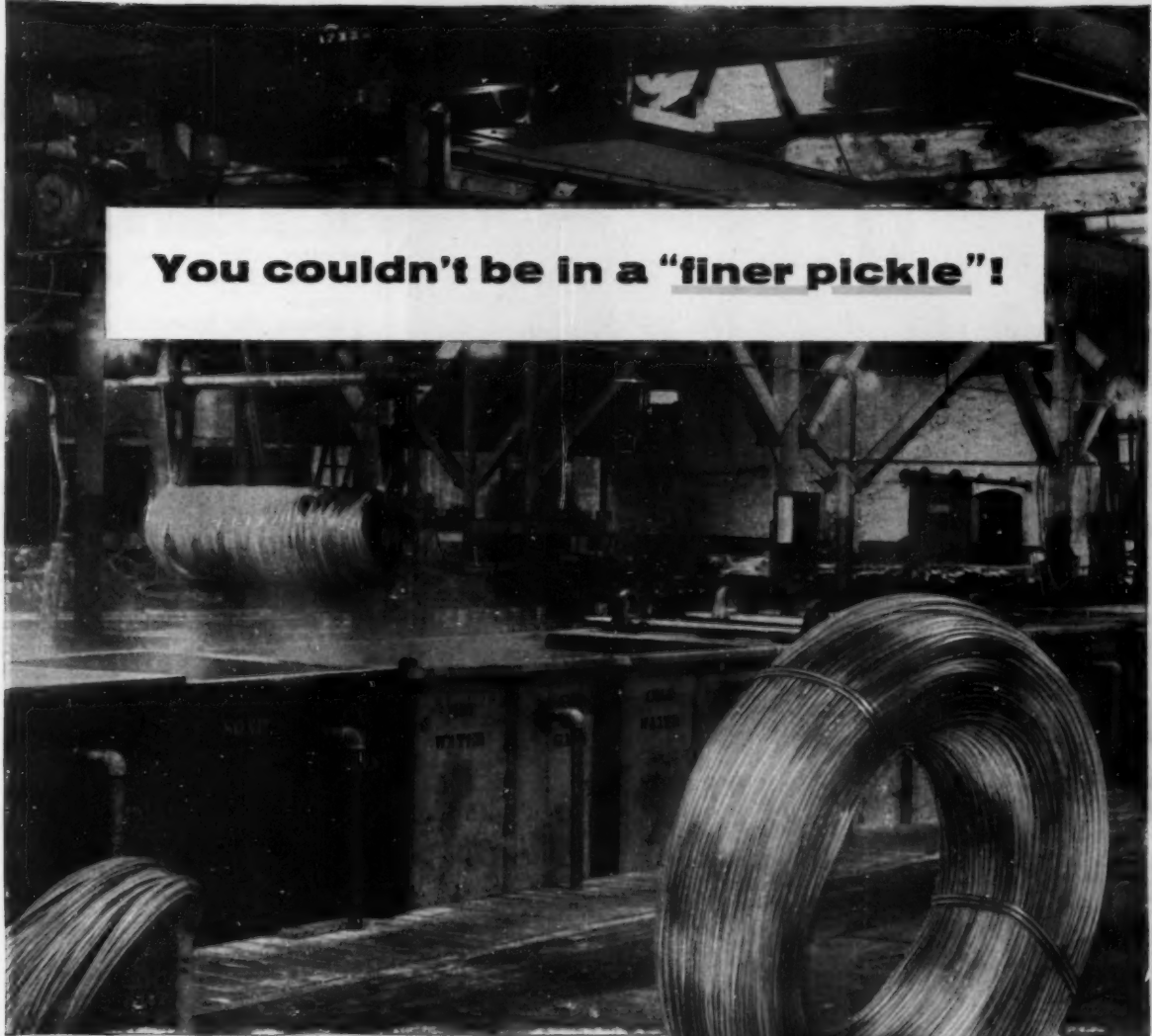
• **Network of Organizers**—To do the organizing job, Livingston has a staff of 275 spread out across the country. In the first year of the merger, that staff was pared down from 320, and reassigned to regions where its particular talents could be most effective.

In the key Southern area, 65 organizers are permanently assigned to 13 states and special projects by Livingston's office. They work with organizers from unions affiliated with the AFL-CIO on a man-for-man basis.

• **The Outlook**—While labor does not anticipate any great gains, unless some development such as an economic setback should make unionization suddenly more appealing, the organizing score is expected to mount higher under the AFL-CIO than the postwar average of 200,000.

Officials tick off several reasons:

• Some employer resistance is expected to weaken because organizers will be on the job constantly. The movement of Northern industrial companies, already organized, into the South and Southwest is also expected to help. Many of them can be quickly and successfully unionized when they open plants in the South; they don't want organizing trouble in Dixie to disrupt orderly relations elsewhere. Higher union rates in these plants, union officials contend, will lead to or-



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ganizing interest in other industries.

- Organizers also foresee a helpful drop-off of union rivalries.

III. Need for Organizing

More than just a desire for enlarged economic and political power is keeping labor busy in the organizing field. As one AFL-CIO leader put it: "If the work force and industry were static, we could be satisfied with 15-million members. We're doing pretty well. But, for self-protection, we've got to organize."

Unions cite industrial decentralization as one reason. When already organized companies expand or move into new territories, unions feel they have to follow them. To allow them to operate non-union, they believe, might drive down wage rates.

Too, where a company develops a new product at a new plant, a union feels compelled to sign up the new plant. By failing to keep abreast of new products, its members may find themselves in a field of diminishing jobs.

• **Industrial Changes**—In addition, the changing nature of industry—including increased automation—is giving more importance to traditionally non-union occupations. In production plants, for instance, white-collar workers—while still in the minority—are becoming much more numerous. In the steel industry, the percentage of white collarites has increased from 3% to 19% and will climb much higher in the next decade. The Steelworkers union fears that unless it signs up these white-collar jobs, the bargaining strength of production workers will be lessened because of the large non-union bloc.

The unorganized goal is tremendous. Livingston puts it at 26-million, of which half are non-union white-collarites. Some 3-million or 17% of white-collar employees have been organized, but the total is increasing three times as fast as the number of production workers.

• **Research Job**—As part of the over-all organizing drive, the AFL-CIO has set up a nine-member committee of top headquarters staff members—research, publications, and legislative people.

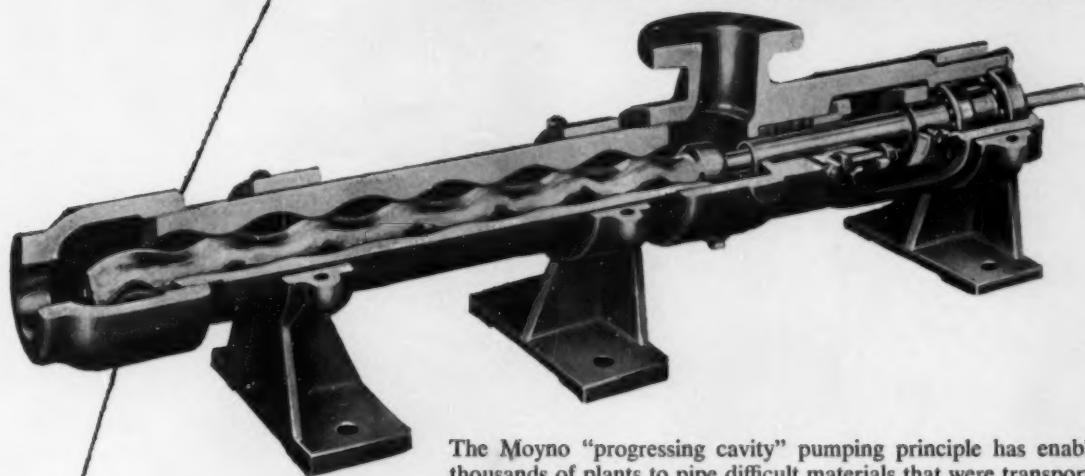
This committee, headed by AFL-CIO Research Director Stanley Ruttenberg, has the awesome assignment of making labor unions acceptable to non-union workers.

It will be a job of developing a public relations program of persuasion cut to fit the unorganized employee attuned perhaps to a geographical region, to a particular industry, or to a particular job. The research job is being done thoroughly—with no timetable or deadline by which to produce results. Its work, presumably, like organizing itself, will go on forever. **END**

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How Employers View Labor

Two professors report that management has moved away from its former adamant anti-union position. Union official agrees, notes effect on unions.

In collective bargaining sessions, when company and union negotiators hunch forward in their chairs glaring at each other through the smoky air, the remarks they fling often are charged with what sounds like real hatred. But the bargainers frequently are red-eyed and irritable from continuous haggling with no time out for sleep. In light of this, how much of the animosity in their exchanges can be traced to frustration and exhaustion and how much is injected for its effect on the negotiators' adherents?

• **Separate Studies**—To answer these questions, two university professors and a union research director analyzed the attitudes of management and unions toward each other at the ninth annual meeting of the Industrial Relations Research Assn. in Cleveland. Their papers and others presented at the meeting are now available for study.

Labor specialists from companies, unions, and universities attending the session considered a broad range of topics including the economics of the shorter work week, effect of minimum wages, research in labor relations. And they elected a new president, Dale Yoder, University of Minnesota economics professor.

But the papers sparking the most interest and argument were those presented by research director George Brooks of the International Brotherhood of Pulp, Sulphite & Paper Mill Workers, and by Profs. Douglass Brown and Charles Myers of Massachusetts Institute of Technology.

• **Decided Shift**—Myers and Brown took a close look at the changes in the labor philosophy of American management. Their conclusion: Over the last 20 or 30 years, employers have moved away from an adamant position of anti-unionism, although there is evidence in recent years of some stiffening in management's attitude toward unions.

Brooks starts with the premise that employers' feelings toward unions have come almost half-circle in the last 25 years. He then outlines what this means for unions themselves. Both his paper and the one presented by Brown and Myers deal with large manufacturing industry rather than small employers. The authors stress that their statements are "impressionistic," that not every opinion advanced can be backed up by statistical data. When considered together, the papers offer a

valuable summary of how management and unions regard each other in 1957.

• **Employers' Attitudes**—Myers and Brown examine three major employer attitudes: toward employees as individuals, toward unions, and toward employees as union members. While there have been changes in all three areas, the authors find that the greatest change seems to have occurred in employers' attitude toward employees as individuals. Companies have moved away from the belief that the employer alone knows what is best for the worker, that employees are just another production factor, that the interests of worker and employer are identical, and that sufficient financial incentive is all that matters to the worker.

Now, say Brown and Myers, management is concerned with employee communication, job satisfaction, suggestion programs. Labor contracts erode the "right to govern the work force" that once was an exclusive employer prerogative. Phrases like "employees should be treated like human beings" are the vogue in management circles. These impressions lead the authors to conclude that, "rightly or wrongly, there is a pervasive belief in the existence of a positive correlation between the degree of 'morale,' 'job satisfaction,' or 'loyalty' . . . and the productive efficiency of the enterprise. . . ." But they caution, the changes noted may not be great or permanent and, in some cases, management performance falls short of the expressed philosophy.

How employers look at unions raises other questions. From the formal and published statements of many employers and management groups, there appears to be little change in the approach toward unions taken 30 years ago. These usually have not been violently anti-union. But sometimes when an employer granted that his employees had the right to organize, he added to himself: "I will stop at virtually nothing to keep this right from being exercised." It's this sort of under-the-breath reservation that Myers and Brown believe is disappearing.

• **Management "Resignation"**—Just how deeply this acceptance of unions runs is still another matter. According to Brown and Myers, "resignation" would best describe it; "enthusiastic" would almost never do.

Much of this change has been thrust upon employers. Some have made major adjustments on their own, but the



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majority have been pushed into making them by external forces. This fact will play an important role in determining whether the shifts in attitude will "take." As Brown and Myers put it: "It may well be true that if American management, upon retiring for the night, were assured that by the next morning the unions with which they dealt would have disappeared, more management people than not would experience the happiest sleep of their lives."

• **Stiffening Position?**—Along these lines, the authors say they have noted a stiffer attitude toward unions, not so much toward the very existence of unions as in the form of more concerted attempts to limit the substantive areas of company-union discussion.

On the question of divided employee loyalty between the union and the employer, the authors see two separate situations. They find that most employers concerned with this problem attempt to resolve it by saying that the company should deal with the union on union matters and with employees as individuals on other affairs. But how do you define these two occasions? Brown and Myers hold that the employer bent on getting rid of the union has no conflict; there is no such thing as a union matter. However, companies committed to union acceptance have difficulty formulating a philosophy to cope with the divided loyalties of their employees.

• **Effect on Unions**—According to union research director Brooks, "the most important single factor affecting labor unions is the attitude of the employer." If that is true, then the transition outlined by Brown and Myers takes on special importance for unions as well. Brooks assumes that management in large-scale manufacturing is no longer anti-union. As a result, the union membership will no longer accept an anti-employer posture by its leaders. Organizing is simplified because most industrial expansion today is in the form of additions to already established companies, many of which are just as anxious as the union to extend existing rules and personal associations to the new plant (page 65).

Also, through union shop and check-off devices, unions find that employers are more effective in insuring the steady flow of new members and dues than are the unions themselves.

• **Union Centralization**—These factors have contributed greatly, Brooks believes, to the strong trend toward centralization of control in national union headquarters. This possibility has always existed because of the wording of many union constitutions, Brooks points out. But until recently, two checks against overcentralization existed: If a local union were dissatis-



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fied, it could always withdraw from the international with the willing aid of the employer. This is no longer true in most cases, he feels. Rival unions also offered an alternative to a disgruntled local. But with current AFL-CIO no-raiding pacts, this way out is of little value.

This has meant the tendency toward greater centralization of power in the parent body has gone unchecked. Employers themselves have played a role in this development, Brooks contends. They find representatives of the international union easier to deal with than the local people. At the same time, the international representative may find that he can meet on common ground with the employer easier than he can with the local union delegates. So, in collective bargaining, the international man often finds himself convinced of the wisdom of a settlement he has reached with the company. Then he tries to sell it to the local delegation. The results: a wider and wider gulf between union leaders at the top and members at the bottom.

• **Changes**—Summing up, Brooks listed several aspects of the current labor movement that he considered new:

- By and large, union people think that a union has to be big to be good. So far, this is "an undemonstrated hypothesis." But this faith has made members willing to give up a lot of local autonomy. In addition, big unions engaging in multi-plant bargaining have inevitably taken over much of the local unions' activities and functions.

- The collective bargaining process itself has changed greatly. Centralized negotiations, accompanied by centralized administration of the contract, leave local unions with literally nothing to do. The bargaining "tends to become more of a pageant or drama" as the negotiators become farther removed from the work scene.

- The character of national union leadership has changed. Few of the old anti-employer leaders remain. They're being replaced with men who can get along with management, who dress well, make a good appearance. They don't need to be able to capture the "loyalty" of workers.

- Union staff experts are getting into more of the significant aspects of the collective bargaining or internal union process. Line officers are turning over some of their duties to these men. "In its worst form," says Brooks, "the officer or representative of the union abandons his role as spokesman for the union and contents himself with vouching for the qualifications of the expert, who then performs, independently of the machinery of the union, the decision-making function." These experts, interested in keeping clients, frequently find it to their advantage to obscure rather than enlighten. **END**



SALUTE to a new Queen of the South Seas

S. S. MARIPOSA...POWERED BY C-E BOILERS... RE-OPENS SOUTH PACIFIC ROUTE

On October 26 last, the S.S. Mariposa—a 14,000-ton luxury liner—sailed on her maiden voyage from San Francisco, reopening the Matson Lines' famous passenger service to the South Sea Islands, New Zealand and Australia. She will alternate with her new sister ship the S.S. Monterey in serving this 42-day schedule.

Both ships were completed by the U. S. Maritime Commission as Mariner-Class Vessels—the fastest class of dry cargo ships afloat. They were purchased in 1955 by the Oceanic Steamship Company, a subsidiary of the Matson Navigation Company and were reconstructed at a cost of \$27,000,000 to convert them to luxury passenger liners. Of the 35 ships which comprised the Mariner fleet, fifteen, including the Mariposa and Monterey, were powered by C-E Marine Boilers.

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In Labor

Mitchell Gets New No. 2 Man In Labor Dept. and NLRB Shifts

The White House last week nominated a labor relations professional, James T. O'Connell (picture), to succeed Arthur Larson as Under-Secretary of Labor (BW—Jan. 5'57, p91.) At the same time, it designated



Kenneth C. McGuinness as NLRB General Counsel "pending the appointment and qualification of a successor" to Theophil C. Kammholz, who resigned.

O'Connell, who will be No. 2 man to Labor Secy. James P. Mitchell, has a labor relations background like his new boss and is from the same state, New Jersey. The

50-year-old appointee is vice-president of Publix Shirt Corp. He has served as an adviser to Mitchell in the Labor Dept., as well as an Army Dept. adviser on civil personnel. Larson, whom he succeeds, recently was named to head the U.S. Information Agency.

McGuinness was on Kammholz's staff as No. 2 man. A former U.S. Steel employee, he joined NLRB earlier as an aide to a former board member, Albert C. Beeson.

The interim NLRB appointment is made necessary by the Taft-Hartley requirement that only the board's general counsel may sign complaints; a vacancy could snarl T-H enforcement.

Meanwhile, Joseph A. Jenkins, a Texan and a former NLRB regional attorney, is considered a front-runner for an NLRB vacancy open since August. And there's a chance that a job as Assistant Secretary of Labor, held open for four years for a union man, may go to Francis X. Ward, General Counsel of the Carpenters. His name reportedly is high on a list submitted by AFL-CIO Pres. George Meany. Until recently, AFL-CIO declined to support anyone for the nomination.

"Realistic" Teamsters Local Eases GAW Claim for 67 Dropped by Rice-Stix

Sixty-seven office and warehouse employees recently laid off by Rice-Stix, Inc., in St. Louis are guaranteed a year's pay at their last wage under an agreement reached by Rice-Stix and Local 688 of the Teamsters.

The pay assurances given them represent the first long-term application of the local's guaranteed annual wage agreements negotiated since 1953. However, Local 688 "realistically" approved a modification of what the original GAW plan would have provided—full pay to March, 1958. The result is a program similar in some

respects to supplementary unemployment benefit plans now spread through industry.

The 67 workers—and any other covered employees who may be laid off—are guaranteed the difference between state jobless benefits or a lower wage in a new job and their last Rice-Stix wage for a period of one year. The former workers must "demonstrate diligence" in seeking new employment.

The Rice-Stix contract was signed in 1953. In all, Local 688 now has 61 annual-wage agreements covering the top-seniority 60% of those under the contracts.

When the Rice-Stix pact was signed, labor relations experts warned it could be "extremely costly" if long, heavy layoffs should occur (BW—Apr. 11'53, p162). However, Harold J. Gibbons, who guided Local 688 in negotiating the GAW agreements, commented that the union wouldn't "let any employer go under."

The St. Louis drygoods wholesaler has run into some major problems in an over-all reorganization. When lay-offs cut deeply into GAW-covered employees, Rice-Stix sought relief. The SUB-type plan, backed by a trust fund, was worked out as a compromise.

1956 Had Fewer Strikes, Fewer Men Out; But Man-Days Lost Were Heavy

The past year was one of the most peaceful in recent years for labor and management, despite the nationwide steel strike last July and the prolongation of the Westinghouse Electric Corp. walkout that began in 1955.

According to preliminary Labor Dept. figures:

- Fewer strikes started in 1956 than in any year since 1950 except peaceful 1954. An estimated 3,800 new strikes compared with 4,320 in 1955. Only 12 (the steel strike counting as one) involved more than 10,000 workers. Most lasted less than a month.

- The strikes involved fewer workers than in any year since 1942 except 1954. They idled 1.9-million persons, as compared with 2.6-million-plus in 1955.

- Total man-days of idleness were considerably higher in 1956 than in the three preceding years as a result of the steel and Westinghouse tie-ups. An estimated 33-million man-days were lost.

Labor Briefs

The Kohler Co., operating despite a United Auto Workers strike, last week announced an 8¢ to 12¢-an-hour pay boost for factory and office workers. Herbert V. Kohler, president, said the raises were made possible by the company's success in 1956.

Andrew J. Biemiller, former Democratic congressman from Wisconsin, more recently an AFL-CIO legislative representative on Capitol Hill, is new director of the federation's Dept. of Legislation. He succeeds William C. Hushing from AFL, who retired, and Robert Oliver from CIO, who resigned. Hushing and Oliver served jointly after the AFL-CIO merger.

This is the story of one of the many contacts made by Square D Field Engineers which resulted in increased production or reduced cost—or both



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• Continuing expansion of an Eastern chemical company brought about a serious electrical problem. Over a period of years the company has purchased electricity from two nearby power companies. It also has generated some of its own. Various voltages have been utilized, depending upon the type of processing involved and the power company capacity available during various stages of plant expansion. In fact, there are seven different voltages and therein was the problem—the excessive cost of supplying control components and distribution panels—plus the heavy burden of maintaining adequate replacement parts—for seven different voltages.

After a thorough study of the entire electrical set-up, Field Engineer Ralph Weiger made specific recommendations. By the strategic use of certain standard Square D equipment, tremendous savings in both engineering time and construction costs have been effected. And since components for that equipment are immediately available from the local distributor's stock, inventory investment has been virtually eliminated.

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Field Engineers are available through Square D branch offices in all principal United States cities—and in Canada, Mexico and England. Backing up these engineers are the design and manufacturing facilities of 14 strategically located Square D factories and the localized services of a nation-wide network of authorized electrical distributors.



Ralph Weiger

NEWS OF THE MONTH FROM SQUARE D

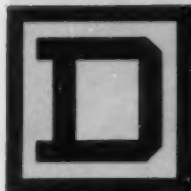
New High... 1956 sales of more than \$100,000,000, were anticipated at Square D's annual Operations Review and Forecast Meeting, held in Detroit the latter part of November. 1955 sales of \$78,726,607 were a previous high. New products and substantial plant expansion contributed heavily to this increase. Management anticipates continued growth to meet the demands of the American people for better electrical living.

Coast-to-Coast... Instant communication between Square D's Detroit headquarters and 14 company plants in this country and Canada as well as field offices across the nation is provided by a 6,000-mile private wire telegraph system recently installed for Square D. This high-speed communications network, incorporating new techniques developed by Western Union, is one of the first to go into operation in U. S. industry. The system permits centralized control of decentralized operations—speeding up customer service, production scheduling, and accounting.

Newest Addition... Square D's new 62,000 square foot plant in Royal Oak, Michigan, was inspected by more than 2,000 employees, customers, and neighbors during a recent open house. This new facility is concentrating on the production of heavy electrical distribution equipment—switchboards, bus duct, switchgear, unit substations—a relatively new market for Square D.

In the Cards... At the touch of a single pushbutton, a new electrical system, incorporating pre-punched cards, controls the entire rolling cycle for fabrication of structural steel. This type of automation heretofore has been impractical because of problems affecting steel quality. Now, The Electric Controller & Mfg. Co., a division of Square D, has developed and is producing an automatic positioning screwdown control system which increases production capacity while maintaining the necessary close tolerances.

Square D Everywhere... To expand sales activities in Latin American, European and African markets, a new Export Department was established, effective January 1. Headquarters are in Square D's Secaucus, N. J. plant in the New York metropolitan area. An international distributor organization is being developed along lines used for distributing the company's products in the U. S. A.



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This is true of Britain, Germany, France, Italy and other European countries. No longer able to supply even its own needs, Europe is becoming increasingly dependent on America's vast reserves, especially for metallurgical coal to make good steel and for quality domestic grades. Last year's export of coal was over 47 million tons—more than double the average of the last ten years—and there is every reason to believe the trend will be upward for years to come.

The recently completed additions to Chesapeake and Ohio's great yards and coal docks at Newport News on Hampton Roads, Virginia, increase their capacity to more than 30 million tons a year. Six

ships can now be loaded at a time.

To move this vast tonnage down to the sea, and at the same time serve American coal users, C&O is building \$50 million worth of new hopper cars. Its present fleet of 62,500 coal cars are in such excellent repair that over 99% are available for use at all times.

More ships are also needed, and to provide these C&O has joined with the other two coal-carrying railroads, the miner's union, and a group of mine operators in the formation of American Coal Shipping, Inc. Already 30 vessels have been chartered and negotiations are under way for 70 more, 20 of them by an affiliate, the Bull Steamship Co.

While C&O's operations have been broadened, and its traffic greatly diversified over the past few years, coal continues an important factor. And the current revival of the coal industry is one more reason why Chessie keeps growing and going.

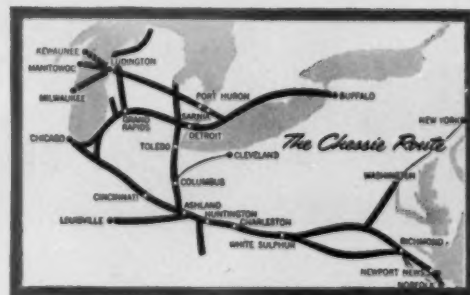


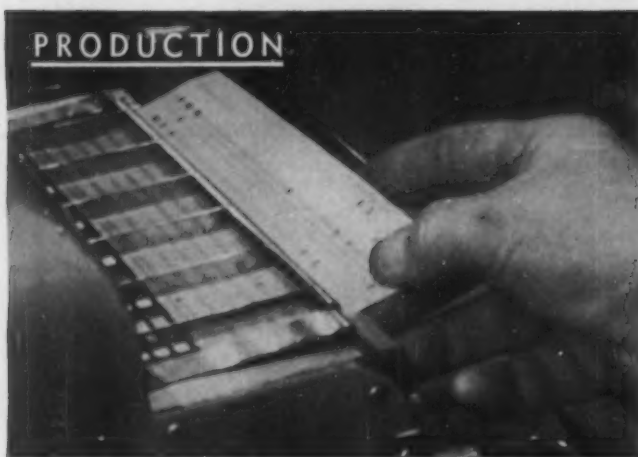
For expanding exports, C&O has just completed a \$3 million addition (A) to its Newport News coal docks.

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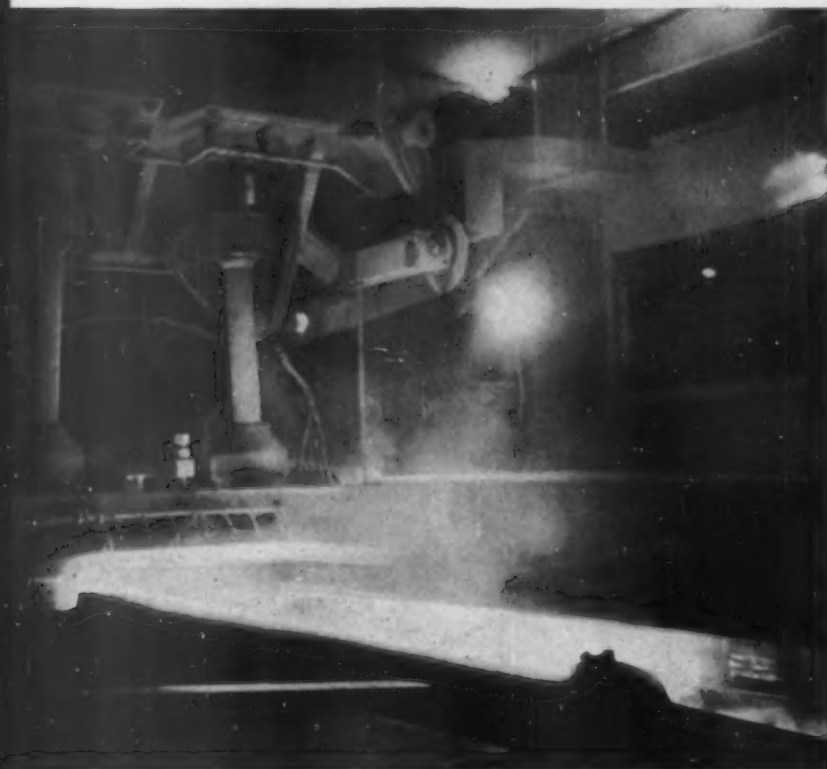
IBM CARD inserted in control unit is punched to indicate proper roll settings and speeds for each pass.

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Steel Mills

Rolling stainless steel and other high-quality steels is a complicated process because—like many other operations in the steel mill—it requires precise controls to maintain the quality of the steel. Steelmakers are beginning to see that the best way to get better controls is to take the job out of human hands and make it as automatic as possible.



Head Into Push-Button Era

On the vanguard of this trend to steel mill automation is Allegheny Ludlum Steel Corp. Its Brackenridge (Pa.) hot strip mill boasts the industry's first card-programmed, push-button system of controlling a rolling operation.

• **Semi-Automation**—Hot strip mills convert heated steel slabs into sheet steel. This is done, basically, by running

the hot steel back and forth through a series of roughing rolls, then through finishing rolls, to squeeze the steel down to the thickness desired. In the past, roll adjustments were all made manually. At Allegheny Ludlum, this can all be done by putting an IBM card in a slot and pushing a button.

Allegheny Ludlum's punched-card

system does not control the entire strip mill—just the 56-in. reversing roughing mill. This is a very critical stage in the rolling process, because here the steel slab may make as many as 15 passes through the same mill to “rough out” the general shape of the final product. Running the same slab back and forth



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"... automating the entire strip mill—from slab to rolled
sheet—is bound to follow..."

STORY starts on p. 80

ber of rolling stands in the mill. But it
complicates the picture production-wise,
since the roll openings—the screwdown
—have to be adjusted after each pass.

General Electric Co.'s General En-
gineering Laboratory developed the card-
programmed system for the reversing
roughing mill. It is a semi-automatic,
push-button system that still requires an
operator. The advantage is that the op-
erator no longer has to set manually the
"screwdown" or control the speed of
the pass—but he has to be there to start
each pass.

• **Full Automation**—This setup is not
destined to be the last word in strip mill
control systems. The next logical step is
to make the reversing roughing mill a
fully automatic operation, eliminating
the need for an operator. Jones &
Laughlin Steel Corp. plans to do just
that.

Next summer, it will place in op-
eration a 44-in. reversing roughing mill
that will be entirely controlled by a
punched-card system manufactured by
Westinghouse Electric Corp. The
roughing mill will be part of J&L's new
hot strip mill at Aliquippa, Pa. Several
other companies reportedly are ordering
this Westinghouse system.

The J&L system will incorporate a
device that will "sense" the approaching
end of a pass, slow it down, then initi-
ate the next one—making it fully auto-
matic. A magnetic drum system will
pick up the information from a whole
stack of punched cards, making it pos-
sible to set up the machine for a whole
day's rolling at a time.

GE reports it is also building some
fully automatic control units for re-
versing mills. Four major steel compan-
ies—Bethlehem Steel, Inland Steel, J&L,
and U.S. Steel—have ordered these
units. The control approach will be
somewhat different in these more ad-
vanced models, GE says. They will in-
corporate selsyn motor-type indicators
rather than electronic counters to regu-
late the screwdown position.

Automating the entire strip mill—
from slab to rolled sheet—is bound to
follow the completely automatic rough-
ing mill. Beyond that, steelmen envision
the day when computers will "think
out" the most satisfactory roll pattern
for a new steel, and control the process,
too.

• **Allegheny's Operation**—The slabs of
steel approaching the Allegheny Lud-
lum roughing operation are from 4 in.
to 9½ in. thick; 11½ in. to 50 in. wide,
and from 2,000F to 2,300F in tem-
perature. Longest slab the mill handles
is 17 ft. 3 in., the shortest, 9 ft.

Coming out of the roughing opera-
tion, the width is the same as going in;
the thickness varies between ¾ in. and
1 in.; and the temperature is down to
between 1,800F and 2,200F. The
squeezed-out thickness shows up in the
length. If the entering slab is of maxi-
mum entering size, 17 ft. 3 in. by 9
in., and is reduced to a ¾-in. thickness,
the slab will be 134 ft. long when it
leaves the roughing mill and is fed into
the six-stand finishing mill.

• **Push-Button Control**—Before Alle-
gheny Ludlum installed the punched-
card control system, the roll settings and
speeds for each pass on each slab were
made manually by an operator who re-
lied on memory or a chart.

Now, as the slab of hot steel ap-
proaches the roughing mill, pushing a
single button automatically positions
the rolls and sets the speed for the first
pass. When the end of the slab passes
through the rolls, a second button is
pushed to set the rolls and the speed for
the second pass. Pushing the same but-
ton again, as each pass ends, starts the
next one. When the required number
of passes has been made, pushing the
first button resets the rolls for a first
pass on a new slab of steel. It's almost as
easy to reset for a different kind of steel.
All you do is change the punched card
in the GE control unit in the operator's
pulpit.

A separate card is punched to control
the required operations for rolling each
different grade or kind of steel. Alle-
gheny Ludlum estimates that more than
100 cards will be on file when the
system is set up to handle all the steels
currently in use. A few single order
high-alloy steels will not be programed.
By scheduling some hand operations,
Allegheny Ludlum hopes to avoid any
change in the labor rating and incen-
tive pay of the operator of the roughing
mill.

• **Less Margin of Error**—The main pur-
pose of the new system is to eliminate
the chance for error in roll settings or
speed—and the resulting lowering of
quality of the finished sheet. But Alle-
gheny Ludlum does expect to boost
production rates on the mill, since de-
lays in making settings and checking
them will be eliminated.

Pushing out the increased production
through the finishing rolls should be no
problem, the company says, since the
56-in. roughing mill is the only re-
versing operation on the Brackenridge
hot strip production line. Everything
else is a single pass operation, so the
reversing mill is the bottleneck any-
way. **END**



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Lockheed Shocks Hard Alloys

Into Shapes It Wants

Lockheed Aircraft Corp. has developed three methods of forming metals using explosive charges instead of conventional drilling, punching, and press drawing techniques. The experimental methods, called shock forming, can shape hardened and tempered alloys that are all but impossible to fabricate.

For drilling holes in super-strength steels (up to 250,000 psi. tensile strength), Lockheed converted a stud driver actuated by a 22-caliber cartridge into a captive piston punch. The cartridge drives the punch at 800 ft. per sec., drills a clean hole with squared edges and no radial cracks.

For expanding tubing in a die, low explosive powder charges in 8-gauge, 1-in. shells are used. Lockheed says the amount of pressure available is limited only by the die and firing mechanism strength. Pressures over 50,000 lb. have been used.

For draw forming—making a cup out of a flat blank, for example—high explosive charges such as Primacord and PETN are exploded over the metal and die. Lockheed has succeeded in drawing stainless steel and other materials far beyond their theoretical limits.

According to a report that will appear in the Jan. 14 issue of American Machinist, a McGraw-Hill publication, shock forming is based pretty much on the same principle that allows a piece of straw to pierce a telegraph pole in a tornado. The metal is shaped so fast it "has no time to crack." Most experimenters think the phenomenon has something to do with the speed that shock waves can travel through a material. If the forming tool travels faster than sound, it precedes the shock wave that causes work hardening and consequent breakage.

...

Montreal Company Will Dredge

St. Lawrence for Iron Ore

Beach and river sands in the St. Lawrence River will be tapped as a major new source of iron ore by Aconic Mining Corp., Montreal. The company owns large deposits of low-grade iron-bearing alluvial sands at the mouth of the Natashquan River, about 700 mi. northeast of Montreal.

Aconic has concluded an agreement with Klockner & Co., Duisberg, West Germany, to supply magnetic separation equipment capable of producing 1-million tons of beneficiated ore per year. Klockner will accept 80% of the payment for the equipment in ore—about \$10-million worth.

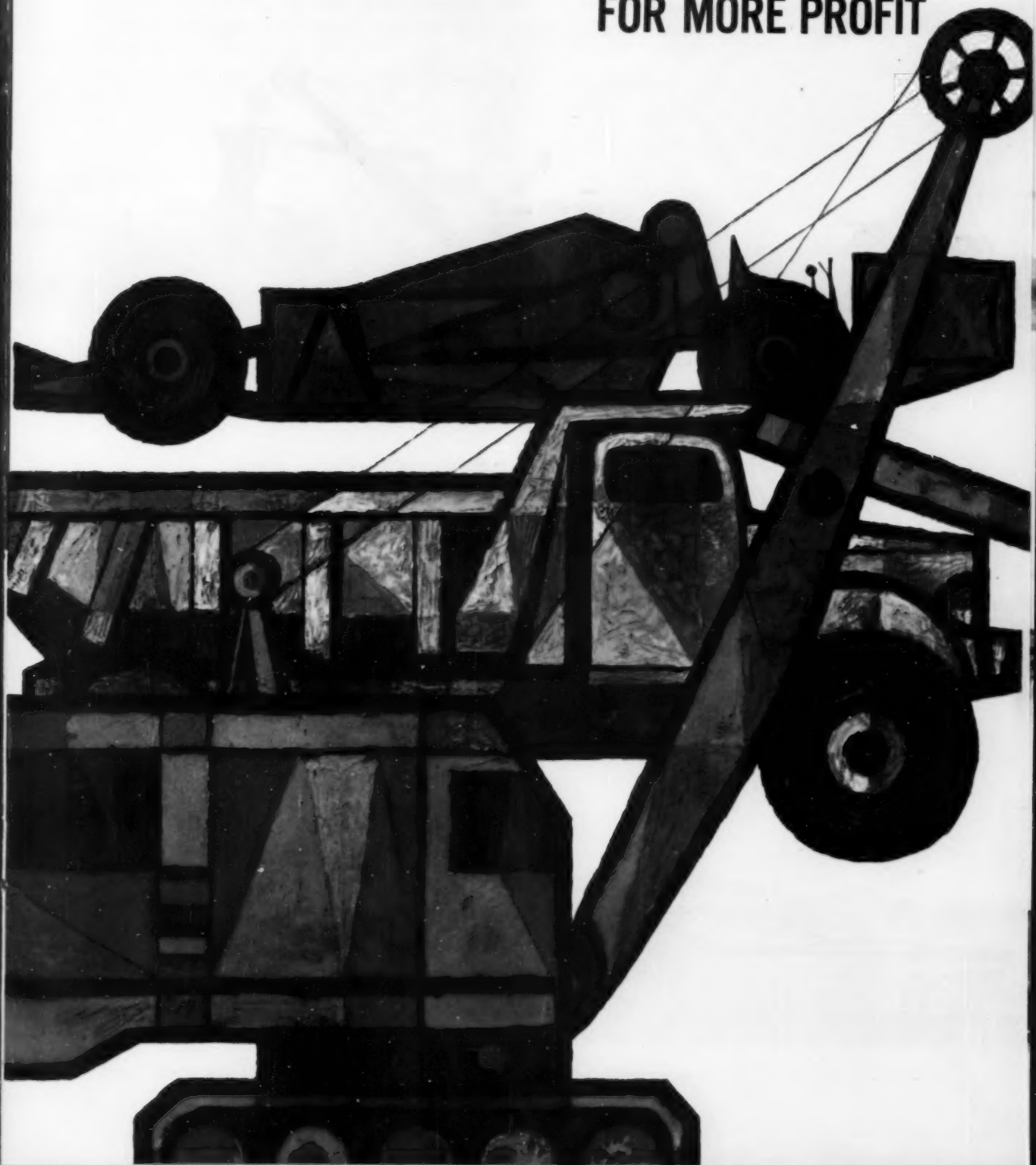
A pilot plant with four magnetic separator units has been in operation at the mine site for six months and has yielded high-grade magnetite of 60% to 70% concentration with titanium dioxide content below 3.3%.

The new plant will be mounted on floating barges that will trail behind dredges as they eat their way inland through the ore-bearing sands. About 25 tons of sand must be processed to yield a ton of 70% magnetite ore. With modern ore handling and separation equipment, Aconic hopes to keep its crude handling costs down to 11¢ a ton.

The Montreal company also is investigating the feasibility of re-

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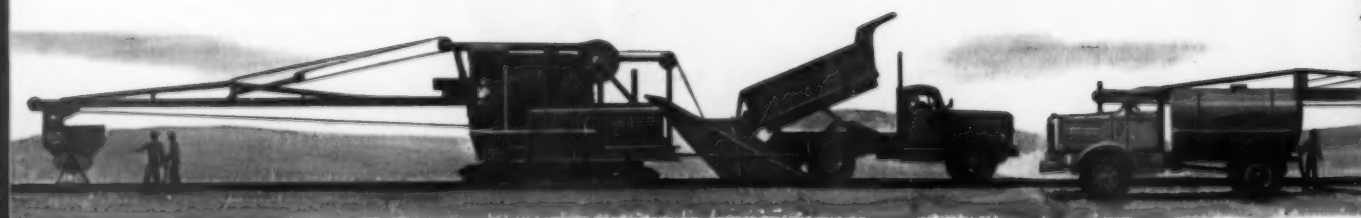


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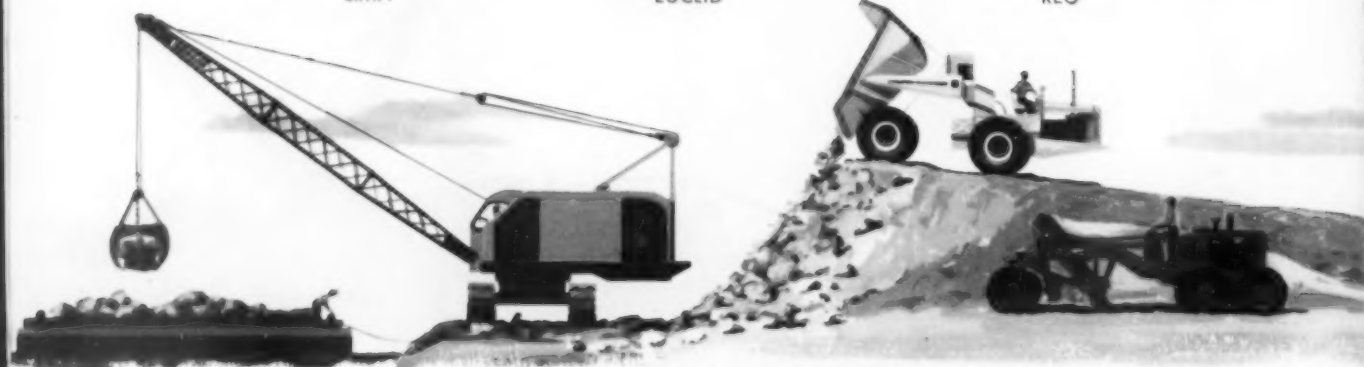
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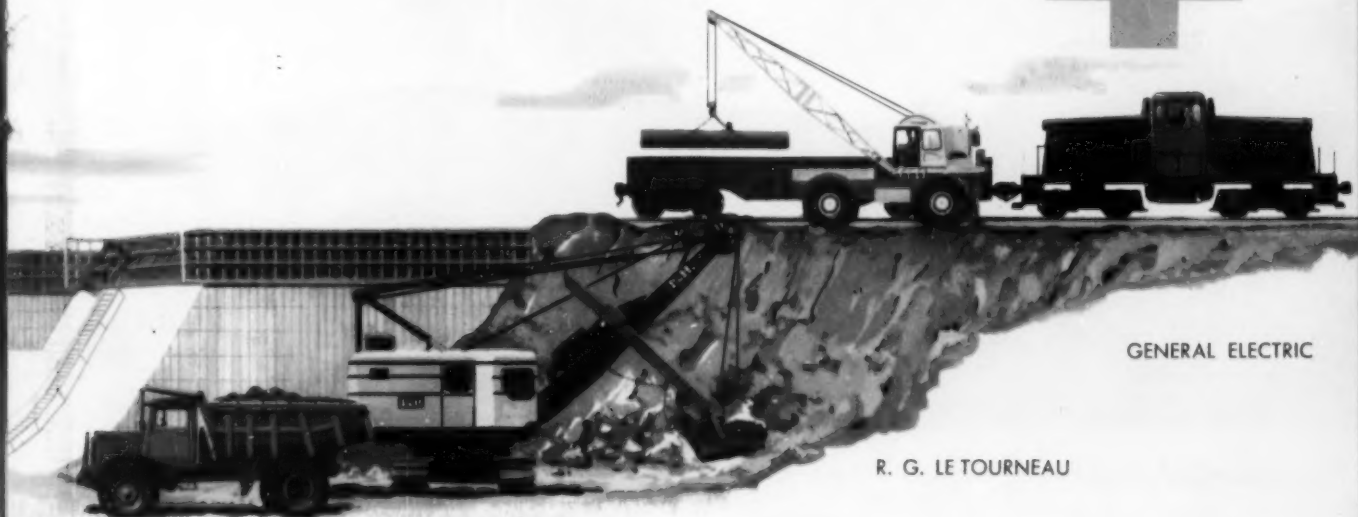
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MORE PROFIT



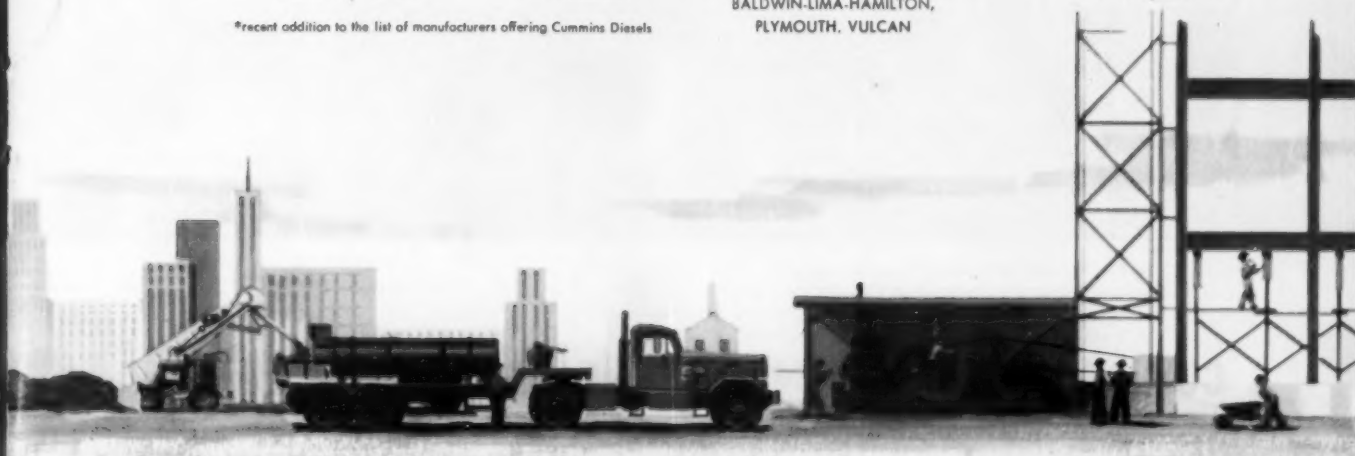
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covering titanium (ilmenite) and zirconiferous ores and garnet from the sands.

This would require a substantial investment in beneficiation equipment and Aconic doesn't plan to install it until the large iron ore processing unit is in operation.

The sands appear to be an economic source of ore even though iron content averages only 4% because crushing and grinding operations used with low-grade hard rock ores such as taconite and jasper are not needed.

• • •

Production Briefs

Ultrasonic beer foamers have been developed by the Electronics Div. of Mack Truck to step up the bottling process in breweries. Filled beer bottles have to foam up to the top to get rid of air before they can be capped. Usually this is done by rapping the bottle with a steel rod—but very often the bottle breaks. The new device uses a vibrating shoe that gives the bottle a quick shake, eliminating breakage.

Alcoa has installed the largest, longest unprotected gas transmission line as part of the system servicing its Point Comfort (Texas) operations. The 8-in. pipe, 20,000 ft. long, needs no protective coating or anodes. It is shielded only at flanged joints with electric insulation.

A fluid coking unit four times larger than any now in existence has gone on stream at Tidewater Oil Co.'s refinery near San Francisco, Calif. The unit, with towers over 250 ft. high, will handle approximately 1,764,000 gal. a day, produce 1,200 tons of coke and 1,472,000 gal. of gasoline and other distillates from the feed stock.

Molded acrylic implosion shields are being used by RCA Victor in its 8½-in. and 14-in. portable TV models. The shields, being produced by Sinko Mfg. & Tool Co. and Santay Corp., both of Chicago, meet the same optical and safety standards as tempered glass but weigh two-thirds less. Unit cost has been cut because the material is cheaper and cutting and finishing operations have been eliminated.

Rockwell Report

by W. F. ROCKWELL, JR.

President

Rockwell Manufacturing Company



THE DAY has long since passed when management could afford to take export business for granted. Increased competition at home and rising sales potential in many parts of the world have made foreign sales increasingly important.

At the same time, the heightened uncertainties of international politics make international selling somewhat more complicated than it formerly was. Markets can appear, disappear and change with startling suddenness.

Our International Department is organized around these realities. It operates according to a philosophy made up of three simple fundamentals.

The first of these is *aggressiveness*. You can no longer assume that a reasonably profitable amount of export business will come in over the transom. Today we send men into the markets. And we back them with consistent advertising and on-the-spot merchandising.

Service is the second fundamental of our export selling philosophy. Distance from source of supply, less brand knowledge, and less engineering knowledge make service even more important abroad than it is at home. It is often necessary, for instance, to write long, detailed letters explaining engineering and product application matters that U.S. customers take for granted. And of course prompt shipment of products and quick handling of volumes of detailed paper work are obviously important.

Flexibility is our third working principle. Credit terms, pricing, product design—even organizational structure—must be quickly adaptable to a host of rapidly changing conditions.

We've been asked if international selling is really worth all the extra work required. It is for us; it is a very worthwhile and profitable part of our business. Diversity in marketing is just as healthy, we believe, as diversity in products.

* * *

One valuable method of merchandising we use abroad is participation in International Trade Fairs, in cooperation with the U. S. Department of Commerce. Our Delta Power Tools were the only American power tools displayed at the big Paris Trade Fair last spring. In the last nine months they were also exhibited at International Trade Fairs in Stockholm, Salonica, Bagdad, and Kabul.

* * *

Eagerness to meet production schedules often causes operating men to overlook the creeping rise of indirect costs. Since most indirect costs are controllable, their unnecessary rise comes under the classification of waste. One of our General Managers has isolated the eight most common causes of such controllable waste, and supervisors are charged with the definite responsibility of using this check list constantly, but especially during periods of heaviest production.

* * *

Since a recent report on the creation of the first lubricated plug valve, several people have asked what became of the inventor. We should have referred to him as the late Sven Nordstrom. That we did not was a natural mistake; Sven Nordstrom was with our organization for so long, and his contributions were so great, that many of us still find ourselves referring to him in the present tense. When he retired, the Rockwell-Nordstrom Valve had done so well by him that he was able to enjoy his leisure either on his yacht, or at his ranch, or in his fine home workshop which was equipped, we are pleased to report, with Delta Power Tools. Sven Nordstrom passed away in 1951.

One of a series of informal reports on the operations and growth of the

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NEW PRODUCTS



New Current in Watches

In 1480, a German locksmith produced the world's first portable timepiece and christened it the Nuremberg Egg. The contraption was so cumbersome that the owner usually delegated a servant to tote it around for him. But, ever since, watches have been depending on the same principle to make them tick—the mainspring.

Now progress has caught up with almost 500 years of practice—Hamilton Watch Co. has put on the market the long-awaited, battery-powered electric wrist watch (BW—Mar. 21 '53, p180). It has no mainspring and, what's more, doesn't have to be wound or agitated in any way to keep running.

• **A Look Inside**—The new timepiece looks just about the same size as any conventional shock- and water-resistant, anti-magnetic wrist watch, with the same features and one third of the parts. A battery the size of a shirt button energizes a coil of fine copper wire fixed to the balance wheel. The energized coil forces the balance wheel across a magnetic field created by two permanent platinum alloy magnets. The circuit then breaks and the balance wheel spring reverses the action causing the wheel to oscillate continuously. In essence, the balance wheel is a small electric motor that drives the hands and does it with a self-controlled, uniform rate of speed. Hamilton thinks it's so efficient that the watch will maintain better than 99.995% accuracy throughout a long life. Periodic changes of battery will be all the attention necessary.

• **What It Costs**—National Carbon Co. is manufacturing a gold-plated battery to Hamilton specifications. They guarantee it will power the motor for 12 months and peg life expectancy at as many as 18 months. The battery re-

placement price: approximately \$1.75.

Hamilton's present model, encased in 14-carat gold, with gold markers and numerals and a sweep second hand, retails for \$175. A gold-filled version will be available next month at \$89.50.

NEW PRODUCTS BRIEFS

A new weed killer that takes the hard work out of cultivating has been developed by Monsanto Chemical Co. under the market name of Vegadex. It is expected to be a big help to truck farmers, who pay an estimated \$30 to \$50 per acre every year for hand weeding. The compound has been registered by the Dept. of Agriculture for use on many crops—including greens, beans, salad crops, and corn. Retail price: \$13.75 a gallon.

A new engineering instrument solves in less than a minute problems in trigonometry that might take 30 to 45 min. using paper and pencil. It consists of a combination of arcs and rules that permit answers to be read off as with a slide rule. Manufactured by Fitch Instruments, Inc., Pottstown, Pa., the Triangulator sells for about \$1,500.

A safe look at ingot production in consumable arc furnaces is possible with a new optical instrument, which fits over the viewing port of the furnace. Operators can study the electrode image on a ground glass screen, through a safety glass window. The device—called the Remote Consumable Furnace Viewer—is custom made by the Instruments Div. of American Optical Co., of Buffalo. It sells for approximately \$500 per unit.



For new designs . . .
or for solving old problems

• Hose of Du Pont TEFLON, manufactured by Resistoflex Corporation, Roseland, New Jersey, is used in the cementing machine of Compo Shoe Machinery Corporation. It is virtually "as good as new" after three years' service. The best hose formerly available lasted no more than one year.

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For example, modern jet aircraft require tough, flexible lines, able to withstand high operational temperatures and handle corrosive fuels and lubri-

cants. The very same hose of Du Pont TEFLON that solved this problem proved to be the solution to the old industrial problem of handling corrosives, adhesives and steam.

Such hose is at work today at the Compo Shoe Machinery Corporation, Boston, Massachusetts. In their machines for cementing shoe soles and bottoms, the flexible hose utilizing TEFLON transmits adhesives from the storage pot to the nozzle. Users report the hose "as good as new" . . . even after

three-year use. The best hose, formerly available, lasted no longer than a year.

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- The Defense Dept. accounts for about one-third of the nation's total outlay for research and development and, some say, fully half of all basic research in the U.S.

- Government spending in these fields has already jumped from an average \$245-million a year during World War II to \$1.5-billion this year. And it's going higher.

- Prime urgency in the military-supported research program is to meet the needs of highly complex weapons systems and worldwide defense, but it also helps industry.

Defense Dept.: Leading Patron

Napoleon was probably the first to couple the material demands of warfare with the research efforts of modern science. He induced French botanists to breed a usable strain of beet sugar to reduce his army's dependence on West Indian sugar; later, he encouraged the development of a process for packing heat-sterilized food in a hermetically sealed container.

Ever since then, soldiers have been turning to the scientist for solution of military problems. And under the spur of military needs have flowed countless scientific achievements of as much importance in peacetime as in war. (Most notable U.S. examples in recent years: nuclear power and synthetic rubber.)

- **Heavier Spending**—In the United States, military expenditures for scientific research and development have jumped from an annual average of \$245-million during World War II to \$1.5-billion this year. The trend will continue to rise next year, as the Defense Dept.'s fiscal 1958 budget, to be submitted to Congress next week, will show:

- Direct military research and development costs of about \$1.6-billion. This makes up about 65% of the government's wide-ranging scientific activities and about one-third of the nation's total R&D bill.

- Indirect military research and development expenses of at least \$3.6-billion. These are included under aircraft and missile production, shipbuild-

ing, plant construction, and military pay costs, but are earmarked for test and evaluation of new weapons and for support of research operations.

- **Is It Enough?**—In recent years, the military R&D program has become the target of increasing criticism from Congress, industry, the scientific community, and from within the Pentagon itself. First, it is charged that insufficient money is poured into military research, that Russia is progressing faster than the U.S. in weapon development.

Clifford C. Furnas (picture), Asst. Secy. of Defense for R&D, disputes the charge. Says Furnas, former Curtiss-Wright Corp. research director, now on leave as chancellor of the University of Buffalo: "We do not want to spend more than can be used effectively, since this might well inflate costs and produce no greater results. We must remember we are in a marathon race with the Russians, not a sprint."

Then there is criticism that too little military-sponsored research is devoted to basic studies.

- **No Sharp Definition**—Actually, the Defense Dept. doesn't tot up its basic research costs—mainly because it has no satisfactory definition of what basic research is. But the "educated guess" of one top-level Pentagon research administrator is that from 5% to 10% of direct military R&D expenditures could be classed as fundamental research.

Purists, however, would dispute this

figure. As most academicians—including the government's own National Science Foundation—see it, basic research is aimed at increasing knowledge in science; the basic researcher's goal is a fuller understanding of his subject.

Using this definition, you would have to discount the Pentagon administrator's 5% to 10% figure. Before any military R&D project is approved and allocated funds, its backers must show Furnas' office and the Pentagon comptroller that its objective is "relevant to the Defense Dept. mission."

To the academician, this would make the project applied research. Yet as modest as military basic research spending might be one Defense Dept. official says it's still enough to support at least half of all basic research.

- **Objectives**—Furnas himself emphasizes that "in the military field, the R&D effort is vectored toward weapons and their carriers which go higher, faster, and with greater reliability and carry more of a lethal punch than in the past. These, coupled with improved means of target detection, constitute the principal objectives of the present Defense R & D program."

The current budget bears this out. Of the \$1.6-billion R&D obligations in fiscal 1957, all but \$132.7-million will go for aircraft, guided missiles, electronics, ordnance, atomic energy, and biological and chemical warfare apparatus.

The remaining \$132.7-million will be



CLIFFORD FURNAS is Asst. Secy. of Defense for research and development.



COL. WILLIAM BURRY of the Army heads the Pentagon "Office of Sciences."

of the Sciences

spent for research in what the Pentagon classifies as "the sciences"—that is, projects not directly related to military end-items. In this area, you find the military-sponsored basic research—plus considerable applied research of direct usefulness to the civilian economy.

• **Who Does the Work**—The Defense Dept.'s science research program runs the gamut from astronomy and medicine to physics and sociology. It covers at least 20 different scientific disciplines. About 60% of the work is performed under contract by universities and private research institutions (and to a small degree by industry), the remainder in government-owned facilities. Among the major contractors are Massachusetts Institute of Technology, Battelle Memorial Institute, Armour Research Institute, Stanford Research Institute, and Arthur D. Little, Inc.

The program's strings are pulled together in a 17-man "office of sciences" at the Pentagon, headed by Col. William C. Burry (picture), an Army medical officer. For administrative purposes, the program is divided among five major fields: medical sciences, "special operations" (Pentagon jargon for social sciences), personnel and training, materials, and a category called "general sciences," which is a dumping ground for all research that doesn't fall into the other fields.

For each of the five fields, the Defense Dept. has set up an advisory panel of noted civilian experts to help lay out

the research objectives. Panel members also advise whether projects should be conducted in government or private facilities, based on their knowledge of availability of private laboratories.

The most publicized military science program—the Vanguard earth satellite (BW-Apr. 14 '56, p188)—is not included under Col. Burry's control or budget. Because Vanguard is related to U.S. participation in the 1957-58 International Geophysical Year, the \$20-million project is being supervised by NSF, although the Navy has been running most of the show.

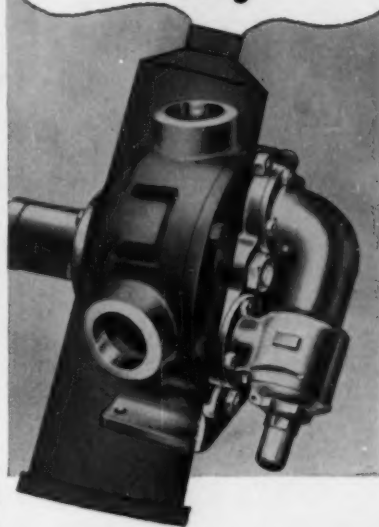
I. Medical Sciences

The armed forces put up the funds for about 10% of total national expenditures for medical research. Emphasis is on projects having few or no counterparts in civilian medicine, such as problems of human performance in extreme environments that produce unusual stresses and hazards, injuries and accidents peculiar to warfare—wounds, burns, radiation sickness, shock, infection, and manpower loss from nervous breakdown under the stresses of military duty.

According to Col. Burry, who also heads this section, two important projects involve problems of increasing importance to industry:

• In the field of "bioacoustics," the military is studying human effects of motor noises—aircraft jets and subma-

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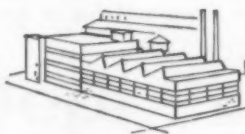
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rines—and high intermittent noises produced by rocket engines. Last year, compensation of hearing losses and ear diseases caused by such noise cost the government \$54-million; industry compensation losses are at a comparable level. Some specialists feel that part of this hearing loss may come from normal degeneration rather than from noises. So one research objective is to develop a simple means to measure hearing loss.

- **The military** is putting a big effort into toxicology—to determine the toxicity of the new high-energy fuels used in missile and jet aircraft propulsion. The goal is to establish tolerable levels of toxicity in exhaust gases and to develop protective equipment.

- **Achievements**—In recent years, military-backed medical research has marked up many important achievements. Pressurized flying suits for prevention of decompression illness, a "vapor barrier" boot for prevention of frost bite, anti-"G" (gravity) suits, and immersion gear have been developed.

Through biomedical field research, the range and nature of biological hazards from atomic weapons have been determined. Substitutes for plasma—such as Dextran and P. V. P.—have been developed for treatment of shock. So have methods for preserving blood for long periods through glycerolization and freezing.

II. Social Sciences

Under the label of "special operations," the Defense Dept. sponsors research in the social sciences relating to psychological and guerilla warfare, military intelligence, and civil affairs and military government. The amount spent is small—only \$527,000 this year—and much of it is tagged top-secret. This section is headed by E. G. Droessler.

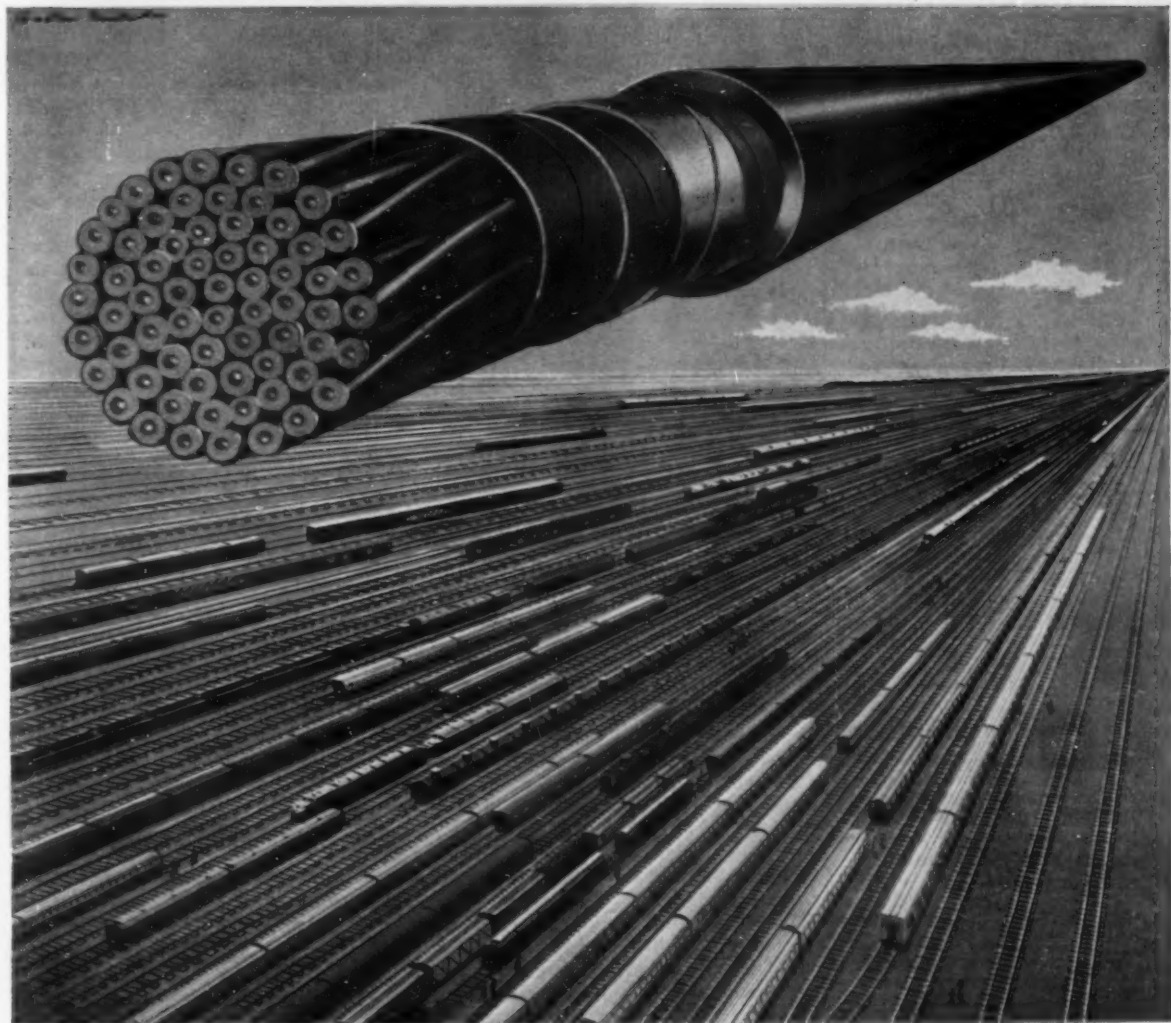
- **Anti-Brainwash**—Results of one project were disclosed last month when the Pentagon announced a new indoctrination program "designed to strengthen the American serviceman's understanding of democracy and to increase his power to resist Communist brain washing."

- **Survival**—Along the same lines, but on a much less elementary level, is the Air Force's program to train downed air crews to survive in enemy territory. The program received notoriety a year or so ago because of news reports of an alleged "horror camp" near Reno, Nev., in which airmen underwent simulated prisoner-of-war treatment.

- **Wide-Ranging**—A major undertaking in the social sciences—starting before World War II—has been the compilation of detailed geographical area studies covering economic, political, sociological, technological, and other factors of possible military interest for



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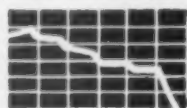


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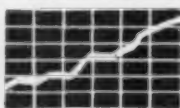
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all foreign regions in which U.S. military forces might conceivably operate at some time.

III. Personnel and Training

More than \$17-million worth of research is conducted in aptitude testing, training methods, motivation, morale, leadership, and "human engineering." Dr. A. B. Nadel heads the coordinating committee of this research division.

The objective, as one Pentagon official puts it, is to "make for better and more effective use of the human as the operator of weapons systems—and at a lower cost." But many of the findings are as applicable to industry as to the military.

For instance, military psychologists boast they are taking the lead in human engineering—designing machines for simplicity of human operation. Emphasis on this concept is apparent in the control room of the new atomic submarines and other costly new equipment. Flight-engineer panels in military aircraft are now set up so that all dials read at 9 o'clock simultaneously under normal conditions. Another feature of latest military aircraft: "shape coding" of control handles so that pilots can tell by feel alone whether they are manipulating, say, the flap or the wheel controls.

On the same tack, the color of aircraft survival gear has been changed because military psychologists have decided that salmon coloring is much better for visibility on water than the yellow of the Mae West World War II life preserver.

• **Other Studies**—Ohio State University, working on an Air Force contract, is studying the problem of air traffic control. With development of fast-flying jet aircraft, the researchers want to know how control tower operators can most effectively retain traffic information while working at high speed.

Dunlap Associates of Stamford, Conn., under a Navy sub-contract from Douglas Aircraft Co., is trying to develop a means of reducing all the information on a pilot's control panel to no more than six instruments, by using a flat TV tube.

IV. Materials

This year, the armed forces will spend \$31.6-million for research devoted solely to development of new materials and improvement of known metals, plastics, ceramics, cermets, etc.

About 2,000 contracts are out—ranging from a \$5,000 contract to a small university for fundamental research on ceramic products to a series of multi-million-dollar contracts with Battelle Memorial Institute for support of its titanium metallurgical laboratory.

But this doesn't tell the whole story of materials research, which is headed by J. H. Barrett. About \$50-million is also tied up in materials work under end-item weapons production and research projects. Boeing Aircraft and North American Aviation, for example, are spending \$7-million to buy titanium mill products and to fabricate parts for testing in production planes. Still more costly is the program in which General Electric, Avco, and Lockheed Aircraft are developing nose cones for long-range ballistic missiles.

• **Across the Board**—Research covers the spectrum of material requirements.

The Navy's Bureau of Ships sponsors research on development of high-strength steels for pressure hulls, powder metallurgy for use in gas-turbine submarine engines, corrosion-resistant coatings, high-temperature properties of refractories, flight deck coverings, cathodic protection and electrolytic cleaning processes, and high-temperature electrical insulation.

The Office of Naval Research backs work on the synthesis, structure, and properties of high polymers, aqueous corrosion of metals, organophosphorous compounds, and weld joint behavior. From the Navy's Bureau of Yards & Docks comes studies on concrete, marine borer protection, and linings for fuel tanks. The Air Force supports research on shielding.

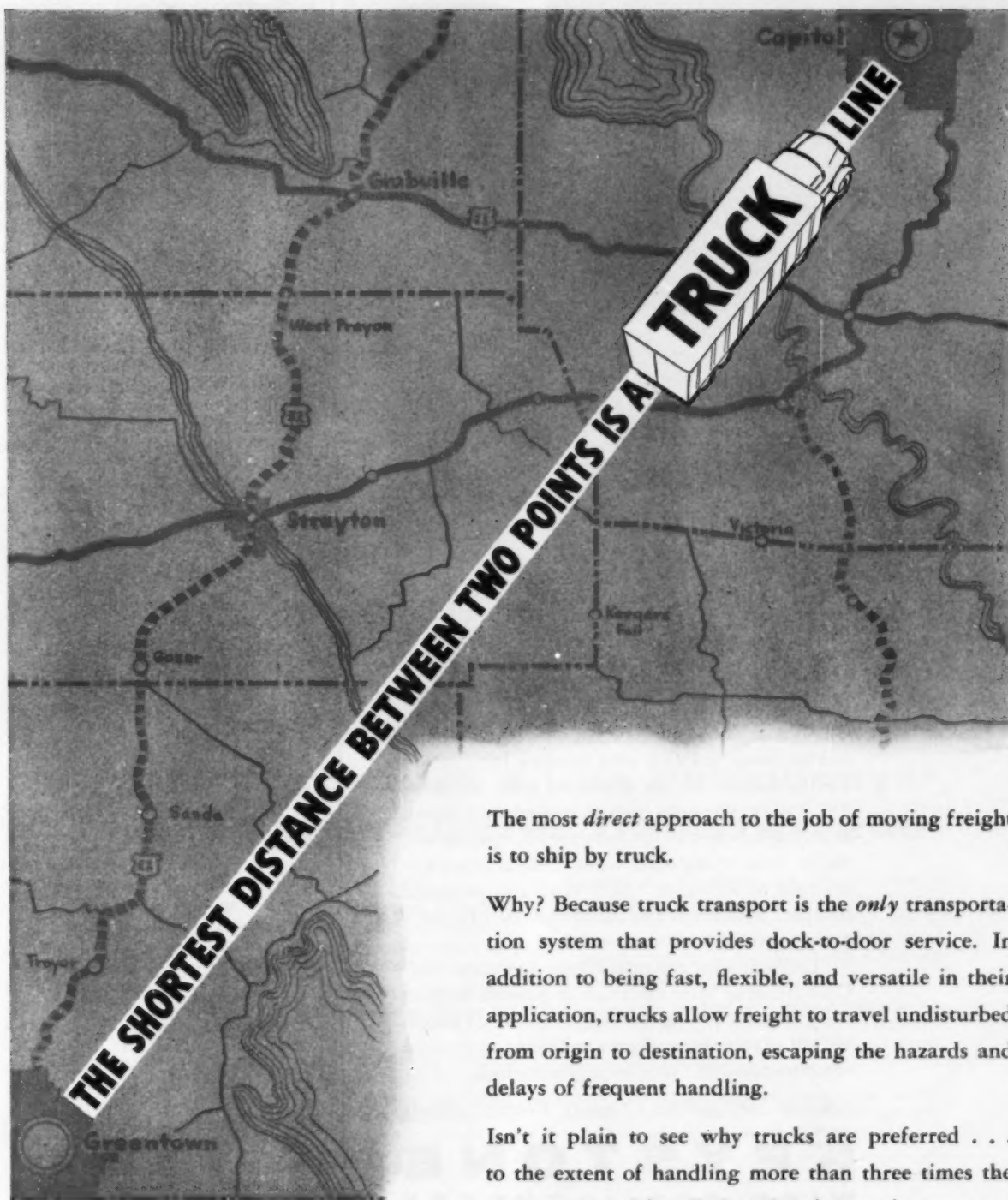
• **The Record**—For the most part, the work is of a slow, unspectacular nature. But there are some major achievements. Zenith Plastics has developed a new reinforced plastic for use in aircraft radomes.

New, easily fabricated magnetic materials—like Alfenol, Thermenol, and manganese-bismuth alloys—have been developed by Westinghouse and other companies and at the Naval Ordnance Laboratory.

Organic polymers such as polyurethane have been developed to strengthen solid propellants for rockets. Even more dramatic has been the growth in plastic and titanium consumption. The Navy's use of plastics, for instance, has expanded to electron tubes, topside structures in most warships for reduction in weight and increased corrosion resistance, and plastic-hull construction of a new 85-ft. patrol boat.

• **Titanium Progress**—The titanium industry's growth has been spurred exclusively by military needs. After a history of 10 years, the armed forces still take up about 98% of the tonnage produced. Roughly 10% of the Defense Dept.'s materials program is titanium.

The research ranges from fundamental studies of how titanium behaves to applied work in fabrication. Battelle and Armour do basic research on heat treatment of alloys and on sta-



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bility and creep at high temperatures. The major mill product makers—Titanium Metals Corp., RemCru, Republic Steel, and Mallory-Sharon—are trying to raise the strength level of sheet alloys.

Ultimately, military experts figure, the major use for titanium will be in flat-rolled products rather than forgings and bar stock as it is now. But thin titanium sheet is still the most difficult form to fabricate because its properties are too variable. The fabricators have contracts to scale up output from laboratory to commercial-type production of improved sheet alloys. This development is expected to give titanium consumption a big boost.

• **Specialized**—The push behind materials research is the development of weapons that will operate in extreme environments of temperature and speed. For the most part, military-sponsored research is in areas where there is little incentive for industry effort.

Many large metallurgical and chemical companies that specialize in commercial research are reluctant to take on military R&D contracts because of problems over patents and proprietary rights. But some put up their own funds for research on specific military needs. The military, for instance, is now the chief consumer of a hardened steel developed by Armco that competes with titanium in military aircraft, and of a new alloy steel (SAE 4340) used in landing gears and wing spars.

V. General Sciences

The bulk of non-weapon military research—\$60.8-million worth—is devoted to what the Pentagon calls the "general sciences." Wrapped up under this label are all the physical, engineering, and biological sciences—much of it fundamental research. Edward Wetter is its coordinating head, and the Defense Dept.'s top consultant on the program is Dr. R. W. Cairns, Hercules Powder Co. research director.

Universities and private research foundations contract for 70% of the projects. Says a Defense Dept. official: "The contract is let where we find the talent."

Ideas for this research are generated within the military services and also by outside scientists. Many proposals have to be turned down because they have no relationship to military missions—even by the greatest stretch of the imagination.

Two proposals that are frequently submitted for military support—and are regularly declined—are investigations of the nature of gravity and demineralization of seawater.

From studies in earth physics, the Air Force learned how to work frozen ground and to judge its characteristics. This made possible the construction of

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the DEW line, the polar radar network that is nearing completion. As a result of extensive Navy studies of ice islands, it is not improbable that icebergs will soon be more seriously considered as potential missile-launching platforms of the future.

• **Basics**—Mathematics has become almost the basis of military operations in recent years. Mathematical models of new weapons systems are set up and evaluated to get preliminary analyses of design, test, and operation. Logistical planning—the scheduling of production, procurement, and distribution of materiel—is conducted with mathematical tools. For aircraft fire control mechanisms, artillery, missile launchers, and other new weapons, mathematical computers are used to get automatic answers to complex problems.

Such developments are stimulating military support to advance mathematical concepts and analytical techniques. Among the main researchers in mathematics for the armed forces: New York University, Stanford, MIT, the University of Chicago, IBM, and RCA.

Like mathematics, physics has also become a pillar of military operations. As designs for new military equipment increase in complexity, there are growing requirements for new materials with special electrical, mechanical, and thermodynamic properties. To furnish basic data for these, extensive research in physics is necessary. In the field of applied research, the work is tied to electromagnetic propagation and detection, atomic propulsion and weapons, data-processing and computing systems, high-speed and high-altitude flight, and ballistics.

• **Newsmakers**—Much research is far removed from the front line of military operations, but last month two events again spotlighted science's military role:

• The Navy commissioned a mystery ship, the U.S.S. Compass Island, which is described as an experimental navigation craft designed to solve the complex navigational problems of firing ballistic missiles from ships. The vessel is equipped with the most fantastic array of navigation instruments ever assembled on a ship; it will be able to determine its position at sea by radar tracing of the moon and by checking radio signals from the stars. The ship's construction was a direct result of the Navy's research work in astrophysics.

• The Air Force announced establishment of the first known geodetic relationship between maps of the North American and European continents—providing a start for precise geographic pinpointing of military targets. This development is essential to the launching of long-range ballistic missiles; it stems from the Air Force's research in cartography and geodesy. **END**



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Plans for Postal Rate Hike Faces Rough Opposition

The Administration would like to revamp first class postal service by hiking the basic rate for letters to 5¢ and then moving them by either rail or air—whichever is faster. Congress isn't expected to welcome the suggestion, however.

The Post Office Dept. approves wholeheartedly because it would bring in around \$500-million a year in additional revenue and put an end to current deficits. It also would make permanent the kind of service the department is now giving a few cities on an experimental basis.

But railroads will raise loud objections: They would lose an estimated \$20-million a year. And lawmakers are apt to suggest that the consumer alone should not be made to bear the burden of higher rates, that other classes of mail users, (such as advertisers and publishers) should have to pay more, too.

Legislators have shown a marked antipathy to Postmaster-Gen. Summerfield's drive to get the postal services out of the red. They go for the idea of sending first-class mail by whatever means is fastest, but would be inclined to look for a way of doing this without raising the cost to the user.

• • •

New Congress Is Showered With Antitrust Bills

The first important batch of antitrust bills to be introduced in the new Congress went into the hopper this week. Rep. Emanuel Celler, chairman of the House Judiciary Antitrust Subcommittee, is giving Administration agencies a chance to look his bills over before the subcommittee starts hearings on them next month.

Leading Celler's list of proposed legislation is a pre-merger notification bill, which passed the House last year but got lost in the shuffle during the Senate's adjournment rush. The new bill—substantially the same as the earlier one—has three objectives:

- To require all big companies planning a merger (where combined capital structure would exceed \$10-million) to give the Justice Dept. or other regulatory agencies involved 60 days advance notice;
- To extend the authority of the Justice Dept. and Federal Reserve Board to allow them to block anti-competitive bank mergers achieved by asset acquisition. At present, they can only act on mergers achieved by stock acquisitions.
- To give FTC authority, now held only by the Justice Dept., to seek a court injunction to block a merger suspected of being unlawful until FTC has had a chance to rule on its legality.

Celler's second bill—called the primacy of free enterprise bill—declares that antitrust cases filed by the

Justice Dept. should not be thrown out of court just because some other agency also had jurisdiction.

A third bill would write into law what are now only advisory recommendations issued by the Justice Dept. for the operation of government business advisory groups. Among other things, the bill would require that all meetings of these groups be conducted under the chairmanship of a government official and that full minutes be kept. The bill is aimed at such groups as Commerce Dept.'s Business Advisory Council and Interior's National Petroleum Committee—two pet targets of Celler's committee.

Another Celler proposal would exclude from taxable income two-thirds of the triple damages won in private antitrust suits. A recent Supreme Court decision held that the amount by which the triple damages exceeds actual damages is gross income and therefore taxable.

• • •

FDA Will Put Geiger Counter On Nation's Food Supplies

Food & Drug Administration scientists soon will start keeping tabs on the amount of radiation picked by raw and processed foods as a result of weapons tests and other uses of atomic energy.

The program will involve "continuous monitoring" of of some 15 staples in the average American diet.

FDA Commissioner George P. Larrick says "there is no evidence of any significant radioactivity in the food supply." But small as it is, the amount is measurable and will increase as atomic energy takes its place in the nation's economy, FDA points out.

FDA has enlisted the help of the National Canners Assn. in a search for foods canned before 1945—the dawn of the atomic age. FDA wants samples from these early packs to determine naturally occurring "background radiation" so it can work out a yardstick for future radiation measurements. FDA will measure the amount of radiation in eight raw agricultural foods, (including wheat, potatoes, and fluid milk), six simply processed foods (such as canned tomatoes), and one food—bread—fabricated from several ingredients.

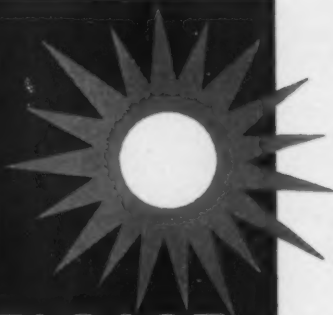
• • •

Justice Dept. Ponders Action In Gas Pipeline Merger Case

Justice Dept. antitrusters are scrutinizing the proposed merger of El Paso Natural Gas Co. and Pacific Northwest Pipeline Corp.

The object is to discover whether the combination of the two big pipelines—particularly the gas reserves of the two companies—should be challenged under the Clayton Act's antimerger provisions.

News of the merger proposal last November created a puzzle for government lawyers, who were in doubt whether Justice had jurisdiction to challenge the merger of companies already regulated by the Federal Power Commission. Now the Justice Dept. has concluded it has the authority, though it has not yet decided to take the case to court.



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STEELCASE

Inauguration Takes Over Capital

I HAVE READ about the gorgeous receptions given Alexander the Great, Hannibal, Caesar, and Napoleon, but the written descriptions . . . sink into insignificance by comparison with the grand review . . . about to be enacted in the Capital of the greatest nation on earth."

Thus wrote Rep. Usher L. Burdick (R-N.D.) in a newsletter to his constituents four years ago, advising them—in a tongue-in-cheek overstatement—of the inaugural gala being readied for another famous general named Eisenhower.

This week, Washington again was awlirl in preparations for one more of those quadrennial national extravaganzas, the Presidential inaugurations, for the same Dwight D. Eisenhower.

• **Spectacular**—Whether you accept or reject Burdick's appraisal, it's quite a show that is being cooked up to herald in the second term of Pres. Eisenhower and Vice-Pres. Richard M. Nixon. It will keep the capital buzzing for an "inaugural weekend," Jan. 19, 20, 21.

The 1957 inaugural committee is busy this week spreading the word that Washington's 12,500 transient hotel rooms are ample to care for out-of-town-ers who want to see the President sworn in—although reservations should be made quickly now.

Only about 14,000 can be seated for the swearing-in ceremony on Capitol Hill, but you can stand and watch it—free. For a price (\$3.50 to \$18.75, depending on how close to the White House), you can buy one of the 65,800 seats along the inaugural parade route.

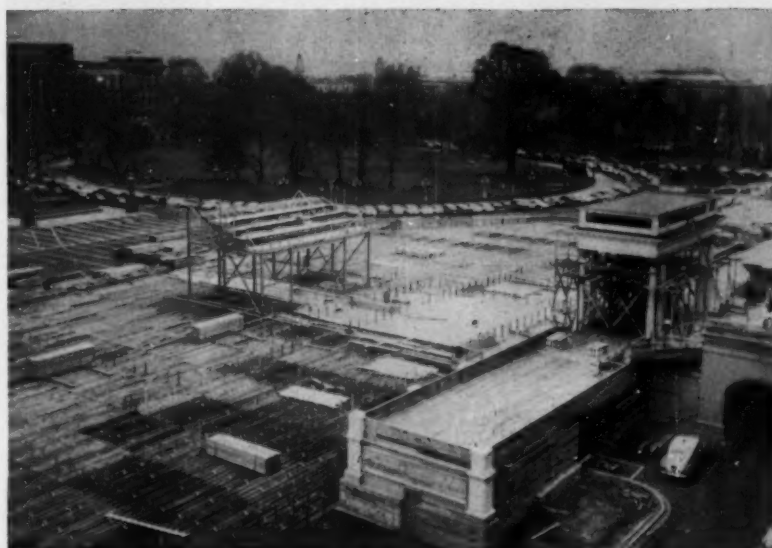
Some of the holiday events are strictly invitational, but the public can buy tickets for a special inaugural symphony concert (\$4.50 to \$11, black tie) and an inaugural festival produced by actor George Murphy and starring Hollywood luminaries (\$3.50 to \$50).

• **The Program**—Democrats who happen to be in Congress or serving as governors of their states can get on the inside for much of the festivity if they want to, but 1957's inaugural time means merriment mostly for Republican officialdom and the cream of GOP society from coast to coast.

Highlights of the three-day program include:

Saturday, Jan. 19: Reception for official distinguished ladies, reception for young Republican leaders, and the Murphy festival.

Sunday, Jan. 20: Reception for governors and distinguished official guests, a Young Republican program on American Dedication to Peace, and a special inaugural concert by the Washington Symphony Orchestra.



REVIEWING STANDS go up in front of Capitol. Dwight D. Eisenhower will deliver his second-term inaugural address from covered columned stand (rear, right).

Sometime during the day, also, Eisenhower and Nixon will take their oaths of office in the privacy of the White House. Chief Justice Earl Warren will administer the oath to the President; Sen. William F. Knowland (R-Calif.) to the Vice-President.

Monday, Jan. 21—Eisenhower and Nixon repeat the oaths publicly at the Capitol and the President delivers his inaugural address, after which the inaugural parade will wind down historic Pennsylvania Avenue to the White House.

The conclusion—and easily, the social climax—comes Monday night with the inaugural balls. Here the 1957 inaugural committee will do a little history-making by staging four balls simultaneously (in the National Guard Armory, Sheraton Park Hotel, Statler Hotel, and Mayflower Hotel).

• **Social Peak**—William Henry Harrison's inaugural in 1841 was followed by three festive balls, but Library of Congress researchers say there's no record that any inaugural committee before has ever staged four. The President and Mrs. Eisenhower have agreed to show up at all four of the Jan. 21 parties—and to spend the same amount of time at each one. This arrangement is to guarantee that none of the 14,600 celebrants—carefully selected to receive the much-prized invitations that cost \$30 per couple—will feel slighted. Also, the committee has pledged that no one ball will outshine another in the matters of decorations, music, or number of distinguished guests.

• **Sunday Swearing-In**—U.S. citizens

now take for granted the vast display of pomp and pageantry that marks inauguration time. The fact is, however, that only one bit of it—the taking of the oath by the President and Vice-President—is demanded by the Constitution.

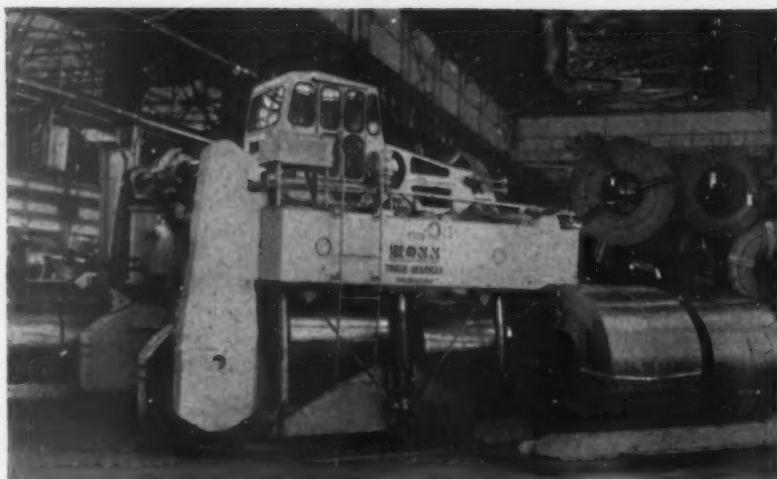
Because Inauguration Day, Jan. 20, falls on a Sunday, Eisenhower and Nixon elected to take the oaths of office in privacy, with only their families looking on. On Monday, when they repeat the oaths at high noon before an immense throng in the east plaza of the Capitol, it will be strictly a matter of ceremony.

Eisenhower and Nixon will become the first to take private oaths since the 20th Amendment became effective in 1936, changing inauguration day from Mar. 4 to Jan. 20.

• **The Tab**—All told, the 1957 inaugural will cost about \$1-million. The taxpayer's burden is relatively small—\$215,000 this time, appropriated by Congress to pay for arrangements attending the actual swearing-in ceremony at the Capitol.

That figure includes construction of special platforms and installation of seats for 14,000 officials and private citizens who can wangle tickets from White House connections. Upwards of 50,000 more can stand in the plaza and get a fairly good view of the ceremony. (Millions more will get a close-up view of the swearing-in and the parade by keeping a close eye on their TV screens.)

• **In Charge**—A joint inaugural committee headed by Sen. Styles Bridges (R-N.H.) has charge of the Capitol



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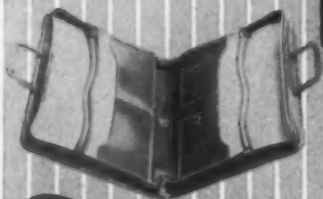
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make your
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effective.

proceedings. It is a bit of irony that Democratic congressmen and senators—simply because they are in a majority on Capitol Hill—get 280 more of the choice 14,000 seats than their Republican colleagues.

This comes about because each senator gets 12 tickets; each House member, eight. However, the White House has asked for 1,000 and National Republican Chmn. Leonard W. Hall—a man who needs to dispense many favors at this season—has applied for another 3,000.

Everything before and after the ceremony at the Capitol is under control of the inaugural committee, composed of prominent District of Columbia citizens and Republican officials. The 1957 chairman is Robert V. Fleming, a Riggs National Bank official, who presides over a 77-member committee which has had a staff of 2,000 volunteers working on arrangements for several months.

• **Sponsors**—The 1957 committee is raising more than \$700,000 by the traditional "guarantee fund" method. This is operating money, to make the inaugural program an artistic success, in the form of loans (or gifts, if the program is a financial flop) from individuals and business firms across the country.

If the program prospers at the box office, the participants are repaid. In 1953, they got back their subscriptions in full. Fleming's 1957 committee expects to be able to duplicate that feat, for it has raised ticket prices all along the line to offset higher labor and material costs.

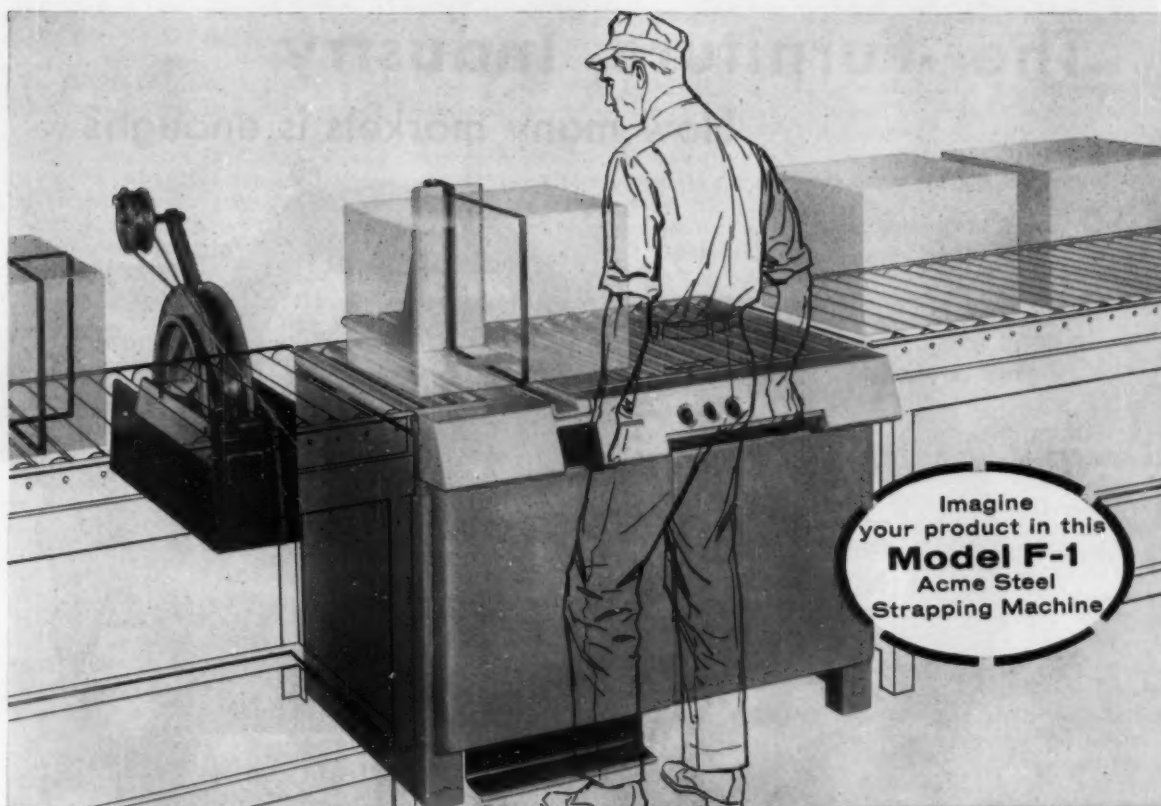
• **Trouble-Shooter**—One of the most difficult jobs is that of the parade chairman—this time, Washington builder Edward Carr. At White House insistence, he's trying to make it a small parade, taking no more than two hours to pass a given point. In 1953, Eisenhower stood for hours reviewing a parade while many celebrants were jamming into the inaugural balls.

Carr's job is to convince each state that it can be represented only by a compact parade unit, preferably a float, a band, and a marching unit.

The parade officers also have rejected proposals for a full-scale show of military ordinance. They will take, instead, only the newest pieces of equipment. One casualty is the atomic cannon. It moves too slowly.

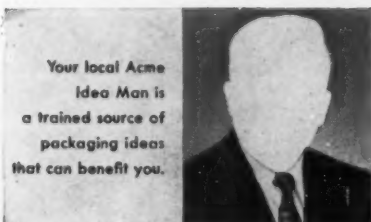
Closed-circuit television, an innovation in Washington parades, will be used to spot tie-ups in the procession.

• **Leader**—In 1953, Kansas and California—as homes states of Eisenhower and Nixon—were given the choice spots at the head of the parade. In 1957, Carr yielded to little Delaware, which insisted on the tradition that puts the states into the parade in order of their entry into the union. **END**



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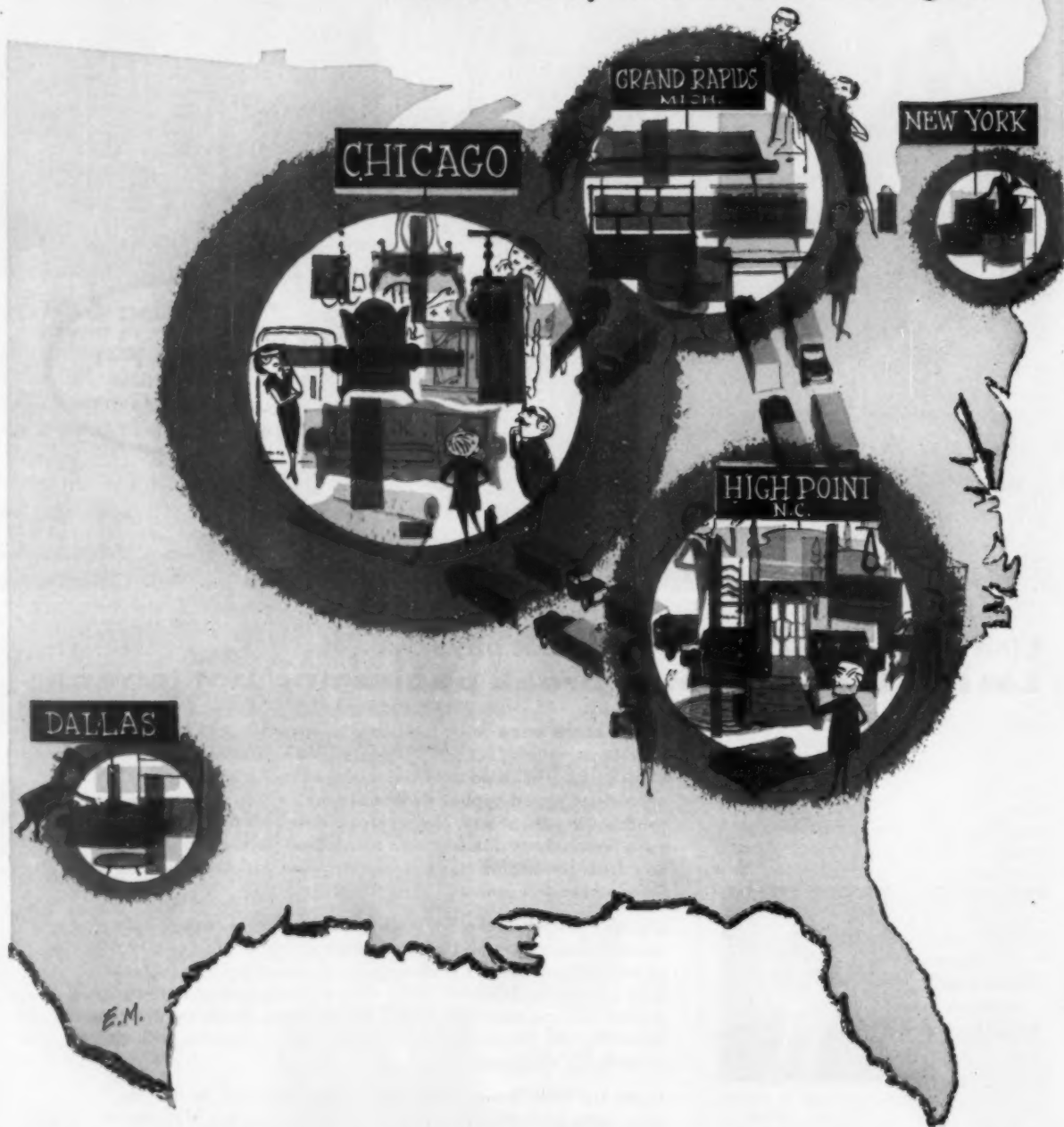
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STEEL STRAPPING

The Furniture Industry

How many markets is enough?



Needed: A Simpler Way to Sell

To the furniture industry, the map of the United States has something of a nightmare quality. The map above, which shows only the more important furniture markets, barely begins to tell the story: the manufacturers'

scramble to get their wares on display in locations that count the most; the retailers' scramble to cover the markets that offer the wares they want.

This week, as the furniture world converged on Chicago for the big Janu-

ary market, there was a special excitement in the air. Furniture, like other industries, is trying as never before to find the most efficient route to the consumer. After months of bickering and research, Chicago had an answer.

On the opening day of the market, a committee called the Home Furnishings Market Committee, headed by D. L. Kroehler (cover), president of Kroehler Mfg. Co., announced that its member companies were going to introduce new lines in Chicago during the April and October markets instead of the January and June shows, traditional markets for new lines.

• **Repercussions**—If the industry adopts the committee's view, this move could profoundly change its production and marketing practices.

The proposal is a bow to high-volume retailers, who prefer to see new lines in the spring and fall. More important, it is Chicago's bid to pull furniture distribution back firmly to a one-market track—with Chicago providing the focal point. Chicago would like—in the interests of more economic distribution, it says—to knock off or at least deflate High Point and some of the other markets in the South, on the West Coast, and elsewhere as big-volume markets.

There are other signs of change in this tradition-ridden business. The tides sometimes pull in opposite directions, and not all segments of the industry see alike. But for all the confusion, recent mergers and some changes in selling patterns indicate a trend to bigness as the answer.

I. The Markets

A built-in factor that has worked against bigness in this industry is the bulkiness of the product. This makes distribution costly, tends to keep plants and markets small, localized, and specialized. How to show the output of 3,000 producers to the 2,000 department stores and 29,000 furniture stores that make most of the furniture sales is the problem.

The central market was the answer. Over the years, Chicago became the focal point for the middle-priced lines, with Grand Rapids the center for top-quality lines. Before World War II, four markets a year at these centers was the accepted thing.

• **Split**—During the war, Chicago and Grand Rapids dropped the spring and fall markets. The host of small retailers preferred January and June because business at the stores is slow then.

The big retailers felt differently. Merchandise they bought in January and June reached them too late for their January and August sales. So they drifted elsewhere—notably to High Point, where they could find a cluster of medium-priced manufacturers. The April-October markets at High Point grew to a point where in dollars, though not in attendance, they are about as important as the June and January shows. But retailers still had

to go to the big Chicago markets for appliances, housewares, and complete furniture lines. The result was a doubling of showrooms by manufacturers, more journeys to market by retailers.

• **More Shows**—Now comes Chicago's answer: Reestablish the spring and fall shows. The Chicago markets got new ammunition for this view this winter from a survey of volume retailers made by McCann-Erickson's Market Planning Corp. Among big retailers, Chicago proved the top choice—but High Point's availability in October and April proved the big factor in favor of the Southern market.

The survey indicated some other things. Retailers place up to 30% of their orders at the market, select up to 80% of their lines there. It underscored the point that big retailers want anywhere from one month to four months between orders and delivery.

Hence the logic of the Kroehler committee's step. By showing new lines in October and April they will please the big customers. By continuing the January and June markets, they'll hold the numerically important smaller retailer. The October show, for example, will tell manufacturers which new lines look promising; by January they will have cut out the duds and will be able to give January buyers immediate delivery. This, says D. L. Kroehler, will help even out production troughs.

• **Too Many Markets**—Most of the industry—including some Southern manufacturers—agree that there are too many markets for their own good. But many Southern manufacturers see no point in shooing away a big market, to Chicago's benefit. High Point has been under fire for its stand, but, "We'll have spring and fall markets as long as the retailers come," says High Point.

Grand Rapids, too, shows some signs of being sucked into the Chicago vortex. Six Grand Rapids manufacturers signed up for Chicago showrooms this year, and attendance at its own markets has been slipping (New York actually is considerably more important for big retailers). But Grand Rapids refuses to be worried. With a few exceptions, its manufacturers couldn't handle a mass market if it had one. And while some people feel Grand Rapids is waning as a market, the Grand Rapids Furniture Guild's recently revitalized program to clean out dead wood among its dealers, make its franchises count, is expected to give this smaller, important market new life.

• **Profit Incentives**—The industry has some incentive to tidy up its distribution house. Every new showroom, every new market adds so much to distribution costs. It is true that furniture sales have flourished since the war. The National Assn. of Furniture Manufacturers estimates that manufacturer ship-

ments of household furniture for 1956 were about \$2.7-billion, up 8% from 1955. High Point and Grand Rapids agree that sales reached a new peak, though a 5% price increase accounted for some of the gain. Sales prospects look good for 1957, too; NAFM is predicting a 5% gain this year.

The profit picture, though, is less rosy. John Snow, executive vice-president of NAFM, reports profits improved some last year—up to about 3.5% of sales from 2.5%. But they are nothing to cheer about.

II. Mergers, Mergers

Furniture is traditionally small business. Even Kroehler, No. 1 in the field, has sales of perhaps \$80-million, or about 8% of the total volume. Only 18% of the 3,000-odd manufacturers sell \$1-million or more a year, and about half sell \$200,000 or less.

Now the urge to grow has hit. Kroehler started off the latest merging spree last fall by buying the furniture end of Mengel Co. (BW—Nov. 10 '56, p62). Drexel Furniture Co., large Southern producer, is taking over Heritage Furniture and Morganton Furniture Co. Henredon Furniture Industries, formerly allied with Heritage, has tied up with Schoonbeck Furniture Co. Lane Co. bought Bald Knob Furniture Co. Sligh of Grand Rapids merged its design and sales with Armstrong Furniture Co. of Martinsburg, W. Va.

Most of these moves reflect the itch of furniture makers to go to something like full line. Kroehler, an upholstery concern predominantly, gets a strong position in case goods through Mengel. Sligh and Drexel, both predominantly case goods makers, get into upholstery through their acquisitions.

• **Bigger Ad Budgets**—Most companies expect greater sales efficiency from the mergers. Furthermore, companies too small till now to spend much money on brand advertising will probably expand in this direction. So far, no one in the field has ever had a million-dollar ad budget. But in today's competitive market manufacturers try to impress their name on consumers.

On advertising, as on production, Kroehler has been a pioneer among furniture companies in thinking of terms of growth. It began consumer advertising decades ago, has stepped up this program fast in recent years. And it is one of the relatively few concerns with a multi-plant setup; it has 15 factories now, with two more on the boards, one for the West Coast. It earmarked \$7-million for expansion of facilities in 1956 and 1957, and is exceptional among furniture companies in being listed on the Big Board.

D. L. Kroehler took over the job of presidency from his father in 1938. He

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is credited with pushing the spring and fall markets at Chicago. "It was Chicago's slowness to realize the needs of its divergent customers that helped bring on the regional markets," he says.

III. Changing Patterns

Changes are taking place at the retail level, too.

With retailers, as with manufacturers, many problems arise simply from the bulkiness of the product. This has always made inventory a headache. Traditionally, retailers buy direct from manufacturers, carry the inventory themselves. The fact that they thus perform a wholesaling function is one justification for their big markup of about double the manufacturer's price.

• **Shifting the Burden**—In the last few years, though, retailers have been trying to throw this burden on other shoulders. They place a smaller chunk of their orders at the markets, reorder by mail or phone, or through manufacturers' salesmen. Some retailers are carrying only sample stock, ordering from the manufacturer when they sell a piece.

A natural result is that wholesalers are doing more business. In 1947, furniture wholesalers accounted for only 17% of manufacturers' sales; based on 1954 Census figures, they are doing about 22% now.

• **Complication**—A growing stress on style has further complicated this problem. Style changes help sell furniture—and so are dear to factory and retailer. But as the consumer gets more finicky, demands a wider choice, both factory and retailer's problems and costs grow. Thus Kroehler in the old days would offer an upholstered piece in two colors; today it is likely to offer 16. The retailer can't carry all colors in depth. As manufacturers increasingly answer the retailer's plea for "something new," the inventory problem grows. Not only may a big inventory get damaged in the warehouse; it may become outmoded.

• **Dual-Purpose Entries**—Many manufacturers are pushing "correlated groups" as a partial answer. These are pieces designed to go with each other, often serving dual functions: Chests may be used in dining, living, bedroom, for example. Consumers like them, says Roscoe Rau, executive vice-president of National Retail Furniture Assn. Since much of the furniture is dual-purpose, the correlated groups could cut down need for widely varied stock.

But they have met some violent opposition. No consumer buys a whole correlated package. A group takes up a lot of retail floor space. Some manufacturers feel the group idea tends to kill freshness and flexibility of design—which create sales.

If the correlated idea grows, retailers may be forced to use fewer suppliers.

If correlation expands to cover both case goods and upholstered furniture—as the recent mergers suggest—small manufacturers may get left in the cold.

• **Rise of Showroom**—Some retailers appear to be finding still one more out for their inventory problem: the showroom, operated by a manufacturer or wholesaler. Figures on this business are unavailable, and since it represents generally the top-priced goods, it's but a tiny part of the whole picture. Nevertheless, at least two showrooms—those of Paul McCobb and Kittinger (Williamsburg reproductions)—note that department stores through their decorator departments are increasingly using showrooms, as a way to satisfy customers who want quality goods.

• **Opposition**—Retailers don't like to talk about this angle. Some flatly refuse to use the showrooms. One reason: They have to pay more because the showroom has to charge higher prices to pay for itself. For another, while legitimate showrooms sell mainly through decorators and never direct to consumers, decorators set their own retail price—and can cut that price below the store price for the same merchandise. Others view showrooms as a threat to bypass the retail store.

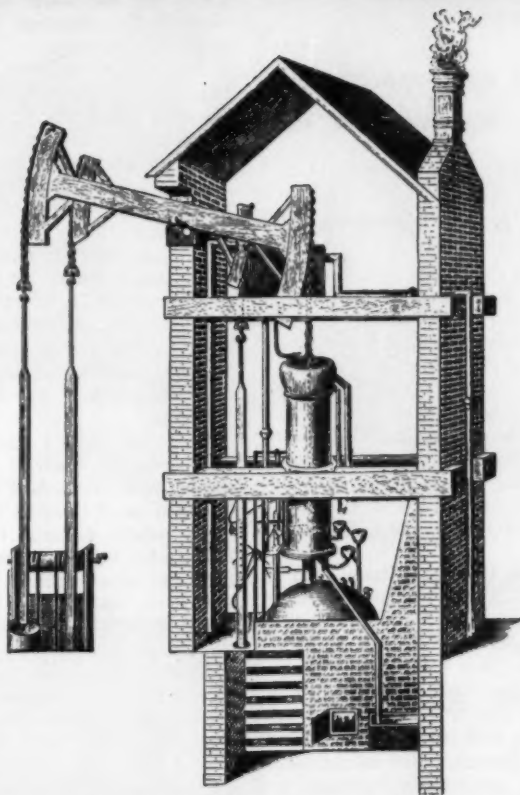
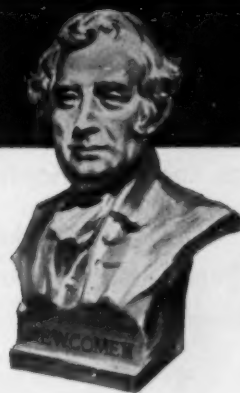
Dunbar Furniture Corp., which sells the bulk of its line through its showrooms, says it was one of the first to make showroom selling respectable. Decorative Furniture Manufacturers Assn., which counts most of the top quality manufacturers among its members, has a strict code of ethics that tries to make it impossible for all but qualified retailers to make a sale.

Many in the decorative furniture line feel that the trend to showroom selling is inevitable, at least for top-quality goods. When you pay \$2,000 for a Dunbar sofa, you have to understand why you are paying it—and this takes highly skilled selling.

For all the confusion and conflict of interest, furniture people talk hopefully of a new, more sensible approach to their large problem. The trend to fewer, bigger manufacturers and outlets is healthy, many feel. Larger outlets does not mean, necessarily, department stores, which account for only about 16% of all retail furniture sales. The big growth today appears to be among furniture stores, often in outlying areas, closer to the home-buying market.

The industry feels that at long last it is approaching its job scientifically. NAFM is proud of the annual Sales Planning Guide it gets out for its members. Prices for 1957 are headed up, thanks to higher material and labor costs—and the style changes that make mass production of the kind the automobile industry knows next to impossible. But the industry is moving, if uncertainly, to get costs down. **END**

CONTROL



Newcomen's engine depended on the production of steam while using the atmosphere as the pressure source. Steam, injected from boiler, filled the cylinder. Water spray then rapidly condensed steam, allowing atmosphere to push piston down.

IN 1712 an English blacksmith named Thomas Newcomen built the first practical reciprocating steam engine, effectively controlling steam energy to produce mechanical power.

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Supers Sell Most Anything

● Their volume of some non-food items is getting big enough to worry the established retailers of clothing, drugs, cosmetics, hardware—even appliances.

● Supermarkets tend to expand their operations in non-food fields, although they admit they run into new problems of space, turnover of inventory.

● Thus, the non-food expansion is still tentative and experimental.

Non-food retailers this season had a new scapegoat for the slow start of Christmas sales. They've usually blamed the weather; this year they also blamed a new competitor—non-food sales in supermarkets.

From all signs, they had good reason. Goods you once could buy only in department stores or specialty stores are going across the supermarket checkout counters in ever increasing volume. In 1956, food stores took on many new non-food lines, such things as toys and television sets as well as the earlier lines such as cosmetics and drugs.

The trend seems sure to accelerate this year.

• **Promotion**—Last month the Super Market Institute decided to set up a committee to gather information about non-food sales in food markets, for the guidance of other store operators. Plans are afoot for the third national non-food exhibit at Chicago's Morrison Hotel in March, with 150 to 300 manufacturers signing up for space.

The first show of this kind drew 160 exhibitors in New York in 1955 as an offshoot of a housewares show. The second was held in New York's Coliseum last September, with 210 exhibitors. Officials of the national Supermarket Non-Food Exhibit, Inc., now plan to make it a semiannual affair, with the fourth one scheduled for next September.

• **Growing Share**—Supermarket operators are shy about discussing figures for their non-food sales at this early stage, but one estimate puts the national total at \$6-billion. The average supermarket, says this source, gets from 5% to 10% of its sales from non-food items. This is small in the sum of retail sales, yet the impact is great in some lines.

For example, A. C. Nielsen Co.'s 1955 report on the retail food industry called attention to increasing sales of health and beauty aids in food markets. "Today," said the report, "retail food

stores report a larger share of dollar volume on some of these commodities than do retail drug stores."

In hosiery, too, the impact is increasing. Frances Johnson of John Wanamaker in Philadelphia says that between 1952 and 1955 the department store share of hosiery volume in one large city dropped 5.7 percentage points while the supermarket share rose 3.9 percentage points.

• **Broadening Horizons**—Items such as hosiery, utensils, and other housewares are alarming enough to other retailers when they appear in volume in supermarkets, but these lines have become almost standard (The Great Atlantic & Pacific Tea Co. is reportedly experimenting even with its own private label for women's hosiery). But independent retailers are particularly alarmed by goods such as radios and toys that are now showing up on supermarket shelves.

Distribution of such items through supermarkets can have a wide effect beyond the food trade. For manufacturers, it can mean a new distribution channel, though one that has its own problems in packaging and shipping. For food processors, it has a flareback, too; space in supermarkets is already at a premium, and introducing non-food items may reduce the number of brand lines a market can carry in foods. Then, of course, other retailers in the non-food lines feel the new competition.

I. The Cold Cash of It

Non-food items came into the supermarkets in three waves. First, the soaps and scouring products were extended to include mops, pails, sponges, etc. Next came the drug store items. After the Korean War, the supers began seriously competing with each other rather than with the corner grocer. They added hosiery, stationery, dungarees, children's clothing, toys, records, glassware, and small hardware.

One big Eastern supermarket chain says the third wave on non-food items today accounts for about 4% of its sales. These are the wares that are getting most of the attention throughout the marketing industry.

Non-food items have obvious attractions for supermarkets. They traditionally offer higher profit margins—the same dollar volume in non-food sales brings a much higher profit to the store, even when warehousing costs are, according to one chain, 50% higher than on food items.

Yet supermarkets have to be careful about these lines. They move more slowly—that's why the markup is higher. And the supermarkets were built on fast turnover—big volume at small markup. So the attractions of the higher margin must be weighed against the need for turnover.

Moreover, there's always a fight for room on the shelves and in supermarket advertising. A&P was considered daring when it devoted big ads in New York papers entirely to toys before Christmas. Other supers, too, advertised toys heavily before Christmas, and now with special post-season bargain sales. Such ads take space away from promotion of food sales.

• **Cautious Approach**—Some of the biggest operators are super-cautious about expanding non-food offerings. For one thing, they don't want to lose the food store label—that's what brought them the traffic that makes them mass distributors.

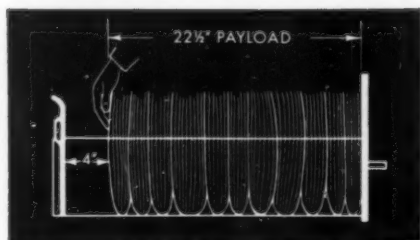
"Our inclination has not been to push or introduce off-lines into food stores," says Safeway Stores, Inc., "but at the same time to be quick to capitalize on indicated customer acceptance."

Kroger Co. also says it is conservative in this respect. "We're still a grocery—first and foremost," says a spokesman. Kroger is very selective about adding non-food items, yet it thinks final figures will show a 23% gain in 1956 over 1955 sales in this field. Non-foods already account for 3% of Kroger's total sales.

In 1955, Kroger bought control of Henke & Pillot, Inc., a Houston supermarket chain that has made a go of softgoods and appliances. Joseph Hall, Kroger president, admits his chain has been disappointed in its own sales of these lines and hopes to learn more through its ties with Henke & Pillot.

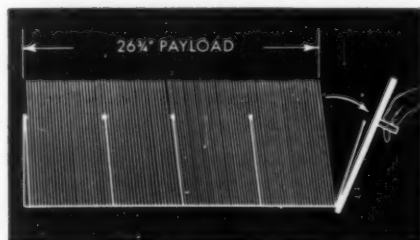
On the other hand, some chains are going all-out. Grand Union Co., for example, considers itself a pioneer in the merchandising of non-foods by food markets. Grand Union has 353 stores and, according to Pres. Lansing P. Shield, "today we have non-food de-

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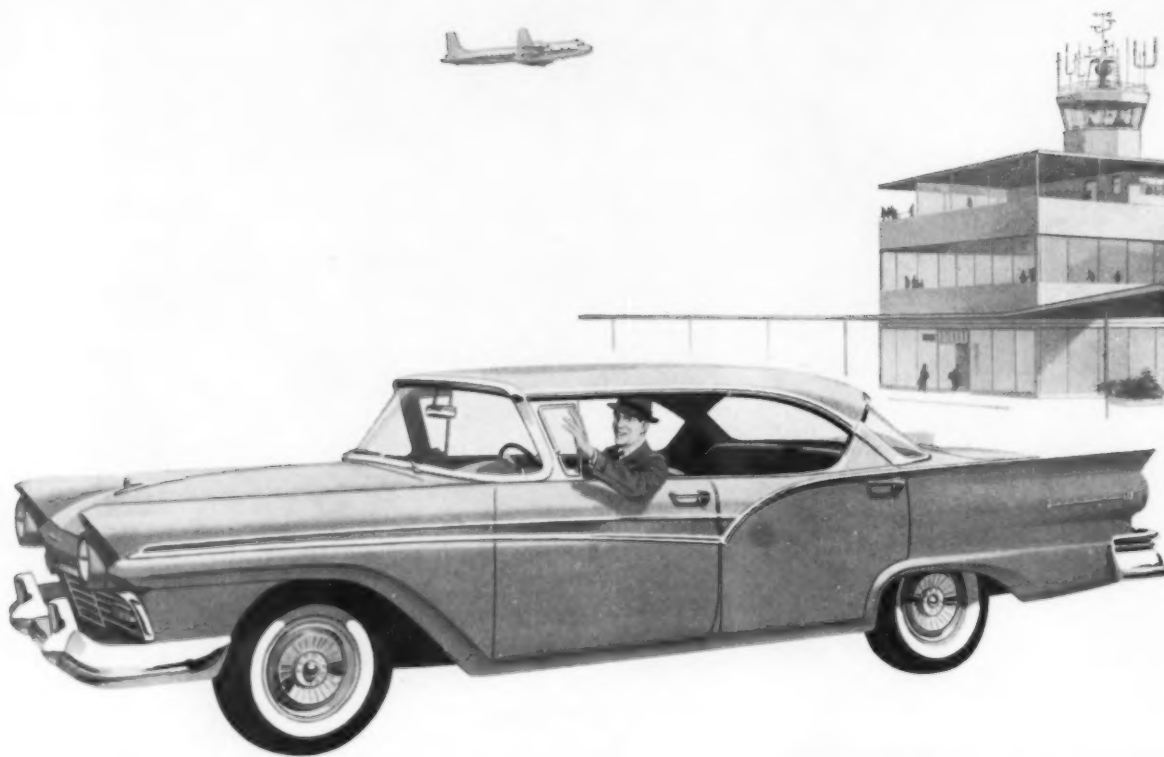
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partments in 132 stores, as against 118 a year ago, and we are handling approximately 10% more non-food items."

II. General Store Again

One Grand Union supermarket, at Keansburg, N. J., was remodeled last year to a fair semblance of the old general store. The store, enlarged to 45,000 sq. ft. (Grand Union stores average 20,500 sq. ft.), devotes 20,000 sq. ft. to non-foods. In this approach to a general store you can buy giftware, cameras, records, small lamps, furniture, rugs, hardware, tools, clothing for men, boys, infants, other softgoods, jewelry, fishing gear, auto supplies, notions.

A&P has a reputation for conservatism (it is, for example, the one major holdout on food stamp plans), yet it has splurged in selling toys in the Christmas season and is now reported considering sale of radios and clocks. Test selling of radios is reported in Philadelphia and Charlotte, N. C.

• **The Whole Works**—Smaller chains have gone further in non-food selling and rely even more heavily on it. J. Weingarten, Inc., a chain of 37 supermarkets in southeast Texas and Louisiana got about 22% of sales last year, and 25% of Christmas business, from non-foods.

Weingarten's stocks a variety of wares from goldfish to garbage cans. The range includes clothing for the family, a full line of drugs, patent medicines and cosmetics, and small appliances. Each of the 37 stores has a courtesy booth where you can buy stamps, money orders, and fishing licenses; cash checks, pay utility bills, or deposit money in the Benjamin Franklin Savings & Loan Assn. Most supermarkets in the Southwest now have similar booths, pioneered by Weingarten's.

In New England, a Stop & Shop supermarket has leased space to an outside operator for sale of records, radios, phonographs, and television sets.

• **Captive Audience**—Is retailing in general coming full-circle to the old general store? Maybe. Goodbody & Co., New York investment house, had this to say in a recent newsletter: "From all signs, in our opinion, 10 years from now, the supermarket industry will be one of the leading distributors of non-food items."

Goodbody points out that the supermarket has a captive audience—"indeed, the largest captive audience in captivity—the food buyer." It seems inevitable that the supers will try to capitalize on this traffic.

M. M. Zimmerman of Super Market Merchandising magazine says in his book, *The Super Market* (McGraw-Hill, \$6): "The American consumer likes to buy non-foods in supermarkets. . . . This doesn't necessarily mean

that the supermarket will become the one-stop shopping center, but it does mean that it will become a 'big-buy center' . . ."

• **Limitations**—Still, some chains deplore the idea of trying to recreate the era of general stores. They see reasons why the trend toward carrying non-foods in food stores may have to apply rather narrowly.

For one thing, a spokesman for a major national chain contends, supers can't carry the same variety of styles, sizes, and brands as department stores and specialty shops can. They just don't have room to do it.

"It will always be the food items that pull the traffic," he says. "You can't be a poor food store, a poor five-and-ten, and a poor specialty store—you wind up being just poor."

Non-food offerings are also limited by price class. With a few exceptions, operators say, non-foods must fall within the \$5 price bracket. Otherwise, they explain, you are outside the scope of the housewife's food money, and she will balk.

Self-service has its limits, too. Goods must be packaged to sell themselves, and they should be small and light, so the shopper can carry them. (However, one store found it could sell power mowers in season—they fit into auto trunks and station wagons.)

• **Ceiling on Competition**—Finally, the idea of supermarkets is running into a snag at an unexpected place—the fast-moving shopping center. Supermarkets prize their opportunity to get into these centers, but the centers are tending to spread their protection to other retailers who are tenants.

More and more shopping centers are leasing space to supers only with restrictive covenants. For example, some provide that supermarkets aren't to devote more than, say, 10% of floor space to non-foods, while others spell out the list of non-food items that the supermarket tenants shall not carry. Still others make no such restrictions but provide that if a market devotes more than a certain percentage of floor space to non-foods, it will pay as rent a higher percentage on sales volume.

One big, fast-growing Eastern chain views such deterrents with approval. It is sold on shopping centers, thinks the presence of a good hard-selling department store or specialty store near one of its supermarkets doubles the amount of customer traffic for both parties.

In the light of such a benefit, this chain plans to go on selling non-food items in its stores that are outside shopping centers—perhaps expand this type of operation—but it says it prefers to sell groceries. In shopping centers, it's glad to sell only groceries and to let neighboring stores do the non-food business. **END**



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Forest Evashevski

Forest Evashevski
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"You see that spirit in other places, too. I've coached in a number of states, and I feel that Iowa leads them all in pulling together for community progress.

"Iowa is a wonderful place to raise a family. Our neighbors are friendly, genuine people who made us feel at home the day we moved in. With four boys and a girl at home, that counts as another big reason why I like to coach in Iowa."

The spirit and loyalty Coach Evashevski mentions is an important consideration for business management. Iowans carry these qualities into their jobs. Their will to work and pride in accomplishment make for good employee-management relations. If you're thinking of a move, write to the Iowa Development Commission for information on the characteristics of Iowa's labor force.



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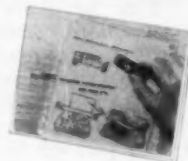


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Appliance Makers Meet Dealer Complaints By Upping Minimum Purchasing Requirements

Some big appliance makers are taking steps to meet widespread dealer complaints about abuses in the builder appliance market. Westinghouse Electric Corp. and Whirlpool-Seeger Corp. are setting new requirements that an appliance buyer must meet to qualify for special builder prices. General Electric Co. also reportedly is revising its minimum purchase requirements.

Dealer complaints got wide attention last September, when the National Appliance & Radio-TV Dealers Assn. asked the Federal Trade Commission to investigate practices it regards as illegal (BW—Sep.22'56,p54). NARDA says that builders often can buy appliances at lower prices than dealers pay. And, NARDA claimed, appliances ostensibly sold to builders often find their way into retail outlets.

To meet such complaints, Westinghouse is upping its minimum purchase requirements. Previously, a builder could buy under 25 units from the dealer at special prices. If he wanted more than 25 units, the distributor—either alone or with the dealer—sold at lower prices. Westinghouse has increased the number to 50 assorted units, 25 units of one product line, or 15 units for room air conditioners. Also, to qualify as a builder, the buyer must be a builder of new apartments, homes and motels, an apartment house owner or manager, a municipal, county, or state agency.

Whirlpool-Seeger's plan is similar to Westinghouse's. It establishes 50 units of one product line or 100 units of two or more lines as minimum purchases, and provides that the appliances be installed by the buyer or resold only as part of a building, prefabricated or mobile house, and that the appliances must be delivered to the buyer within six months of the first delivery.

• • •

Fair Trade's Prospects for 1957: More of the Same Rough Treatment

Retail price maintenance, or fair trade, was battered around last year, and the signs are it's in for another rough year. In 1956, the high courts of five states, Colorado, Louisiana, Oregon, Utah, and Virginia knocked out either all or the key provisions of their states' fair trade laws. This year, test cases are pending in Arizona, Indiana, Kentucky, Ohio, and South Carolina, and lower courts in four of these states have already rendered adverse decisions.

The hardest blow at fair trade was struck at yearend, when Eastman Kodak Co. announced it was terminating fair trade agreements with all of its dealers (BW—Jan.5 '57,p38).

Some big retailers who have held to fair trade prices in the face of the price-cutting of other outlets, welcome

the move. Stephen L. Sturz, president of Willoughby Camera Stores, Inc., New York retailer, says, "Kodak's decision puts Willoughby in the position of being able to compete with the under-the-counter discounter. We won't have to turn away business any longer."

The Bureau of Education on Fair Trade, however, points out that 35 states have fair trade laws on the books. This takes in 74% of the nation's population and 76.5% of its total personal income. Don't rule out fair trade too soon, says the bureau.

• • •

Ruling Bars Favoritism In Advertising Allowance Plan

If a company wants to grant a customer an advertising allowance, it has to make it part of a general plan that will permit all customers to share in such allowances on a proportional basis. That's the gist of the Federal Trade Commission's ruling on a case involving allowances that Atalanta Trading Corp., New York food importer, made to Giant Food Shopping Center, Inc., Washington. Atalanta was among the 11 suppliers and two food chains charged with violation of Robinson-Patman and FTC Acts in 1955 (BW—Dec.10'55,p54).

FTC Chmn. John W. Gwynne ruled that Atalanta's plan went astray by being fitted exclusively to Giant's needs. The law requires that Giant's competitors should have been given a similar deal, if they had wanted it; but the plan as it was worked out could not have been offered on a proportional basis.

• • •

Glass, Electric Shavers, and Oil Draw FTC's Price Discrimination Fire

The Federal Trade Commission started off the year with a fistful of price discrimination cases against big companies. In separate complaints, FTC is attacking sales of automotive safety glass by the two major manufacturers—Libby-Owens-Ford Glass Co., and Pittsburgh Plate Glass Co.—to General Motors Corp. and Ford Motor Co.

According to FTC, both Ford and GM resell the glass to their dealers. These dealers formerly bought from independent distributors and dealers who now can't compete because of GM's and Ford's price advantage, FTC charges.

In another case, FTC charges that Sperry Rand Corp., maker of electric shavers, discriminates in prices charged its customers, favoring chains that buy direct from Sperry's Remington Rand division over retailers who buy from wholesale distributors. FTC also claims that Sperry gives some customers promotional allowances without offering proportionately equal terms to their competitors.

A third case charges Shell Oil Co., New York, with illegal price discrimination by selling gas to two Washington cab associations at 24¢ a gal. less than retail service stations pay. Since the cab associations sell not only to member cab operators but to the general public as well, FTC says Shell is selling its gas at two different prices to competing customers.

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German Steel Looks to Americas

Phoenix-Rheinrohr, big steel and pipe producer, sets up U.S. subsidiary to expand its markets in Canada and South America, and to get capital, raw materials, steelmaking knowhow from U.S.

PHOENIX-RHEINROHR AG, West German steel and pipe producer, is out to make money—and build its name—in North and South America. This week it made a major step in this direction by officially announcing the formation of a U.S. subsidiary, Phoenix-Rheinrohr Corp.

The parent company is West Germany's No. 1 steel-pipe producer and No. 2 steel-ingot producer. Already it has a sizable overseas business. This past year, it exported \$89-million worth of goods, which accounted for about 27% of its \$332.5-million total sales. And it operates two plants in Canada.

• **Significant Moves**—The company's latest move in setting up a U.S. subsidiary follows on the heels of several significant decisions taken during the past three years:

• The two parts of the company—Rheinische Roehrenwerke AG (pipe) and Huettnerwerke Phoenix AG (steel)—joined hands in 1955 to form Phoenix-Rheinrohr AG.

• The company started production at its 100%-owned subsidiary—Canadian Western Pipe Mills, Ltd.—that same year. The Port Moody (British Columbia) plant was Phoenix-Rheinrohr's first overseas subsidiary for making pipe.

• The company began production last September at a second Canadian plant—Alberta Phoenix Tube & Pipe, Ltd.—that it had built near Edmonton in a 50-50 partnership with Canadian and U.S. money.

With its Canadian beachhead established, the Ruhr giant now hopes to enlarge its position in the whole Western Hemisphere. The U.S. subsidiary, headquartered in New York City, will coordinate all of Phoenix's developments here with the home office in Duesseldorf. One of its jobs will be to handle stepped-up purchases of scrap and coal and chartering of ship space. But just as important will be its job of overseeing operations at the two Canadian plants, laying out plans for new manufacturing plants, and forming closer ties with U.S. steel interests.

• **Big Plans**—Dr. Maximilian B. Bauer, the subsidiary's president, says: "Now we're beginning to think big." Here are some of the irons Phoenix has in the fire:

• An agreement with a U.S. steel

company for two-way exchange of technical information on steelmaking problems and processes. The likelihood is that Phoenix will soon sign such an agreement with Bethlehem Steel Co. (This would fall in line with the growing trend of closer contacts between U.S. and West German steelmakers. August Thyssen-Huette AG (BW—Jul. 28 '56, p84), West Germany's top steel producer, already has a technical exchange agreement with Armco Steel Corp. Kloeckner, another leading steelmaker, has just negotiated a similar agreement with Republic Steel Corp.)

• Issuance of a bloc of stock here sometime in the future. The company, like other German steel producers, has been plowing back earnings on a large scale to sustain growth. It needs fresh capital for purchase of U.S. steelmaking equipment and over-all expansion at home. It might float a small issue here or sell stock privately to a steel company as part of a deal for buying rolling-mill equipment.

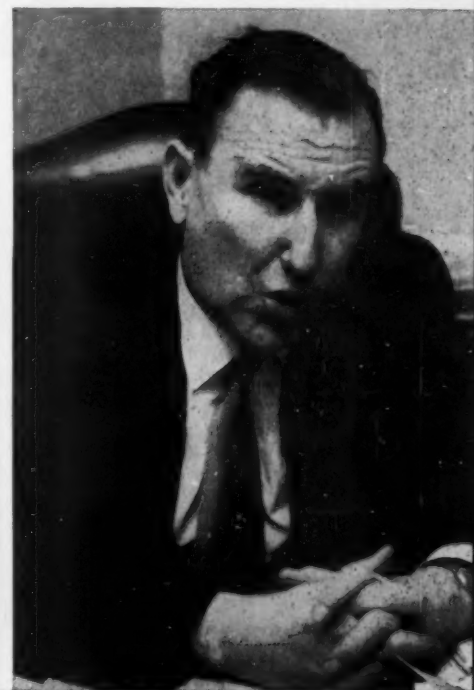
• Construction of a pipe-making plant in South America. There's a good chance that by 1959 Phoenix will have a pipe mill operating in South America. The company already has made careful studies of possible locations, including Venezuela and Brazil.

• **Merger**—This overseas program, in a sense, is the final phase of Phoenix's efforts to reestablish its pre-world War II strength. Before the war the twins—Rheinische and Huettnerwerke—were part of the giant Vereinigte Stahlwerke, Germany's largest steel combine, which consisted of 17 separate companies. The combine was broken up after the war. Under Allied controls, Rheinische and Huettnerwerke undertook separate rebuilding programs. Together the two companies poured about \$200-million into reconstruction. Even as early as 1948, the two had total sales of \$100-million. Then, mostly through the work of Dr. Fritz-Aurel Goergen, who joined Rheinische in 1947, the two companies merged. Since the 1955 merger, Goergen has been president and general manager.

The merger was aimed partly at increasing financial strength of the companies. It also was designed to make them freer of economic ups and downs. The Huettnerwerke would provide Rheinische with a steady source of steel;



DR. GOERGEN, Phoenix-Rheinrohr's president, seeks closer ties with the U.S.



DR. BAUER heads U.S. subsidiary, says company "is beginning to think big."



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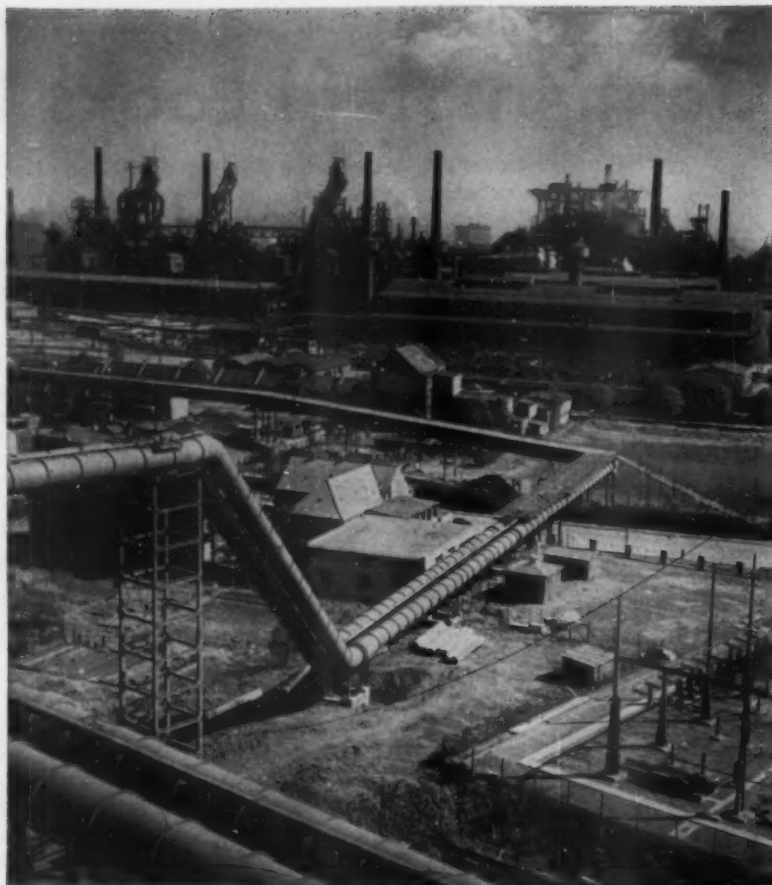
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STEEL MILL near Duesseldorf is one of seven plants Phoenix has in West Germany.

on its side, the Huettnerwerke would be assured of a ready customer for its steel output.

• **Diverse Holdings**—The combined company has seven plants in the Ruhr area. It also has ownership in nine other companies—from a plastic-pipe producer to an iron ore company. Gradually, over the past few years, the company has bought into Blohm & Voss, West Germany's largest shipbuilder, so that now Phoenix has a 20% to 25% controlling interest. This not only provides large income for Phoenix, but also provides a good customer for ship plate.

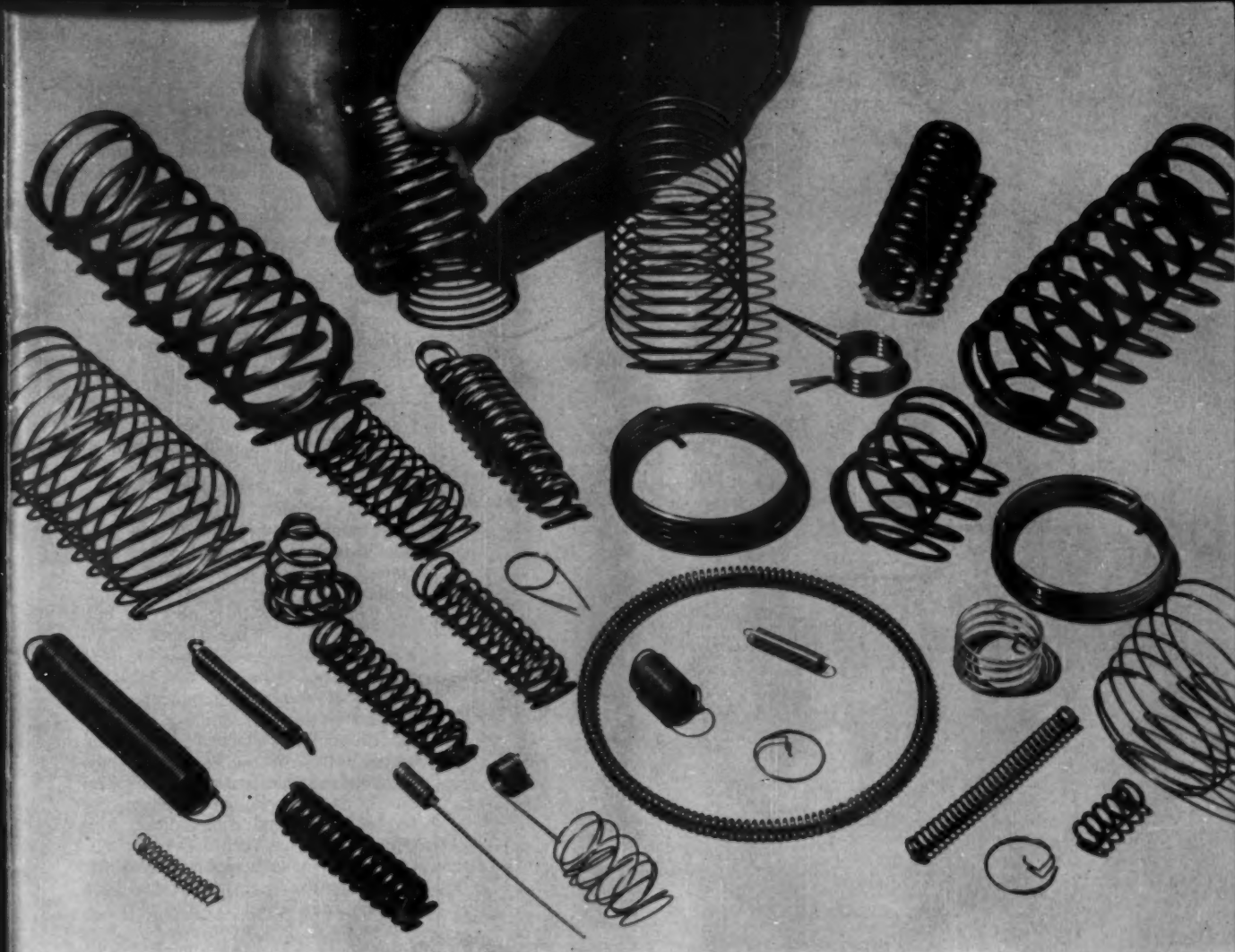
• **Canadian Ventures**—In its first major step abroad, Phoenix put up the \$6-million for setting up Canadian Western Pipe with a plant at Port Moody, B. C. What with Canada short of oil and gas pipe—and major suppliers situated way off in eastern Canada—the new mill has a potentially strong market along the west coast. Most of the mill's output, so far, has gone to British Columbia Electric Co., Ltd., in Vancouver.

Phoenix's second mill, at Edmonton, was a 50-50 financing deal. Partly because of criticism from Canadian investors who were excluded from

participating in the Port Moody project, Phoenix decided to share ownership of the new plant with outside capital.

So the company joined forces with Frank M. McMahon, Canadian oil and gas tycoon, and William G. Gilmore, the West Coast multimillionaire living in San Francisco. McMahon, reputedly worth some \$200-million, started West Coast Transmission Co., Ltd., which is building a \$153-million natural gas pipeline from Peace River in Alberta to the U.S. border (in Washington). Gilmore's main holding is Gilmore Steel & Supply Co. (The two men, incidentally, became friends a few years back through their financial interests in racing stables.) Just as McMahon owns myriad companies—including a profitable vodka company—so Gilmore either owns or is affiliated with about 17 companies in the steel field.

• **New Contacts**—Phoenix's tie-up with these men made financing of the \$6.5-million mill easy. It also gave Phoenix closer contacts with U. S. steel interests, through Gilmore, and a good customer for its pipe output, through McMahon. And the company's interest in Canada—and association with the two



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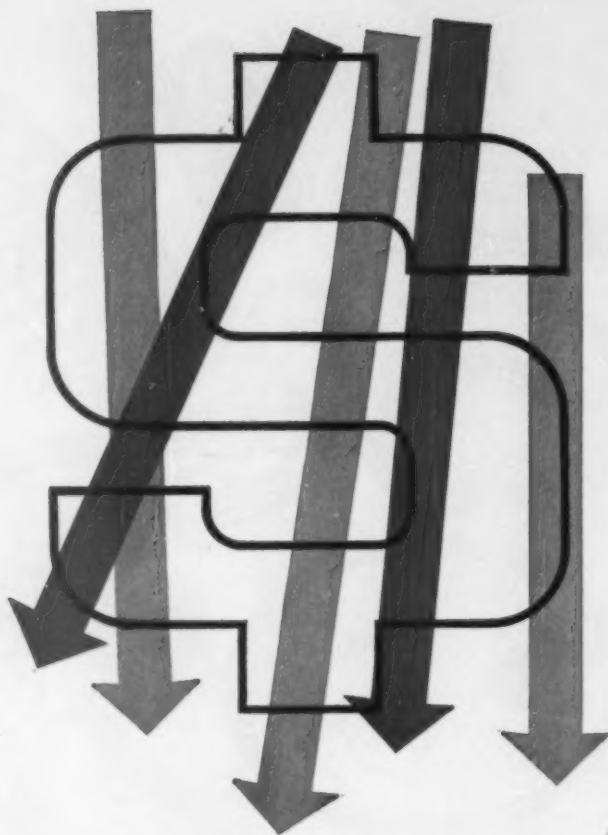
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men—doesn't end there. On a recent visit to Edmonton, Goergen said Phoenix was interested in exploring the iron ore possibilities of western Canada.

The company's immediate concern in the U.S. is obtaining raw materials to keep its Ruhr mills humming. Goergen says that Phoenix now depends on U.S. coal shipments for around 20% of its coal needs. The company's new furnace at Meiderich, which has boosted Phoenix's steel capacity to 2.6-million tons yearly, uses U.S. coal exclusively. Goergen says that U.S. coal landed in West Germany is currently about \$10 a ton higher than West European coal. But he says: "The U.S. will remain a permanent supplier of coal."

• **Exports to U.S.**—Until recently, Phoenix's exports to the U.S. have been small—slightly over 1% of total steel exports. Its biggest orders have come from South America and the Middle East, which together buy about one-third of Phoenix's total steel-pipe output. The company has shipped \$6-million worth of chemical equipment to the U.S. and Canada since 1951. But recently it also got equipment orders here amounting to \$3-million. And last year the company clinched a \$23-million barter deal with the U.S. to supply 120,000 tons of ferromanganese steel for the U.S. stockpile in exchange for surplus agricultural commodities. \$15-million worth has been delivered.

The man who helped negotiate the ferromanganese deal, against stiff competition from West German, French, and Japanese steel producers, is Bauer—a shrewd, hard-driving businessman who was born in Vienna but is now a U.S. citizen. He has served as managing director of several European companies prewar, helped set up an electric-bulb manufacturing company in India during the war, and since 1944 headed up Allied Tungsten Co. Inc.—an export-import company that does a big business in metals. Now, as a director of both Canadian mills and president of Phoenix's U.S. subsidiary, Bauer will act as the main liaison between Western Hemisphere operations and Phoenix's headquarters.

Bauer, on his part, is optimistic about Phoenix's future. For one thing, Canadian Western Pipe expects to sell about 50,000 tons of pipe, worth around \$10-million, during the year ahead. But at home, Phoenix has its problems.

• **Problems**—Goergen, Phoenix's president, thinks the recent 6% price increase in German steel won't hurt exports, mostly because steel prices of other European steelmakers are even higher. But he is concerned about the way costs are climbing. He points to rising freight charges for U.S. coal, higher scrap and ore prices, and the recent 9.5% wage increase. **END**

Meet Bentley McCloud, Division G

A banker for musical instruments

It might surprise some businessmen to find that their banker could discuss the sales prospects of a new electronic organ or the popularity of a certain clarinet reed. But those who know Bentley McCloud are aware that his interest in musical instruments is not only personal pleasure but good business.

For Mr. McCloud is an officer of Division G at The First National Bank of Chicago—the Division loaning to manufacturers, jobbers and retailers of the musical instrument industry.

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Colombia's Dictator: Hanging on the Ropes

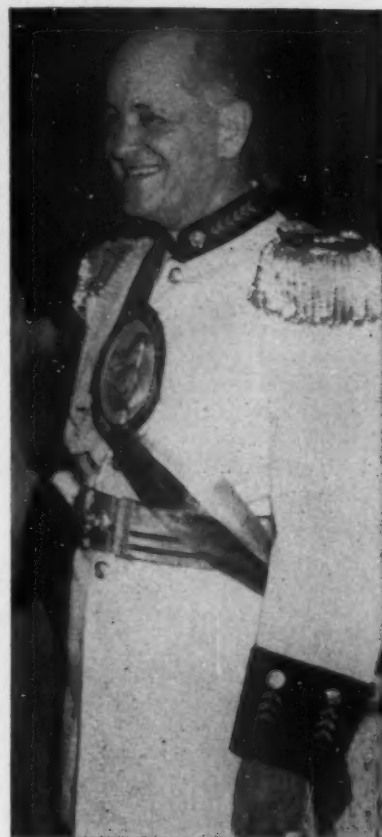
It's a widely accepted idea in some business and government circles that Latin American dictatorships at least insure domestic peace and provide the climate for foreign investment and economic development. Examples that seem to prove the point: the Dominican Republic, Venezuela, Nicaragua, and until last year, Peru (BW—Jun. 9 '56, p132).

This rule-of-thumb took a drubbing when Peron was overthrown in Argentina and left not only political chaos but bankruptcy as well. As the new year dawns, it looks as though the Western Hemisphere might get another close-up of the inefficiency of personal dictatorship. In Colombia, the three-year old regime of Gustavo Rojas Pinilla (right) is tottering. And already the signs of near bankruptcy of the Colombian economy are apparent.

• **Emergency Man**—In desperation, three months ago Rojas called in an aggressive, young banker, Luis Morales Gomez, and reportedly gave him a free hand to save the economy. It's too early to tell whether Morales will be able to swing it. He has established "austerity and economic readjustment" as a guiding motto, cracked down on imports, hoping to reduce last year's \$165-million trade deficit. He has hiked bank reserve requirements, hoping to stem credit and halt inflation. Other measures are reported in the works.

The betting on Morales' program is about evenly divided among informed observers in Bogota and Washington. Many were dubious when Morales was appointed, remembering his reputation for unorthodox policies as head of Colombia's Banco Popular (BW—Sep. 10 '56, p105). They saw him as cover-up man for the regime. But his hard-hitting performance so far has convinced the American business community and even many of his enemies that he really is trying to do an honest job of putting Colombia back in the black.

• **High Stakes**—Morales and his boss, Rojas, are playing for high stakes. Many observers are convinced that it will take almost an economic miracle to save the country from devaluation, perhaps even bankruptcy, and another miracle to save Rojas from eclipse. Industrialists and more liberally inclined middle class supporters have deserted Rojas. His iron-handed suppression of students and police-state persecutions have aroused national resentment; and the church, a powerful force in Colombian politics, has broken with him be-



DICTATOR Rojas' tottering regime will fall unless its economy can be shored up.

cause of the flirtations of the regime—and particularly of Rojas' daughter—with Peronistic tactics such as trying to take over church charities.

Colombia's bitterly feuding political parties are slowly uniting against the military regime. There are even reports that the military officers who put him in want a return to the Colombian army's traditions of staying out of politics.

• **Crisis**—Colombia's present tragedy has been coming on for some time (BW—Aug. 27 '55, p116). For generations, this South American country was able to preserve the rudiments of parliamentary democracy. But as industrialization overtook a largely feudal, agrarian economy in the 1930s—and got an added impetus from World War II—the old society floundered. The country's traditional two-party system couldn't cope with the crisis. Radical elements in both the Conservative and the Liberal parties clashed with tradi-

Unretouched photo showing typical return line corrosive action resulting from carbonic acid and dissolved oxygen in condensate.



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"CLUES" AD CREATES 600 NEW JOBS

When an established industry pulls out of the town it has been in for years, the results can be critical: Men are thrown out of work, retail revenue dwindles. This happened to Webster, Mass., when a large textile company moved South leaving a vacant plant behind. The obvious solution was to refill the old building with new business, new jobs, new revenue.

Two brief classified ads, run exclusively in *BUSINESS WEEK* have resulted in the leasing of the former mill to a greeting card manufacturer. His operation will mean 600 new jobs for Webster . . . and a sounder economy for the whole area.

You will find this week's "Clues" section on page 174

tional groups in the country, brought on near civil war by 1953.

It was then that the country, almost unanimously, called in what has been Colombia's traditionally unpolitical army. Rojas' leadership was almost accidental; he was enroute to Washington to become military attache when he was called back to head the government. What was intended was a military regency for a limited time to restore peace and then return the government to the civilians.

• **Boom Time**—Rojas took over a country that had just about the brightest economic prospects in all Latin America—a small version of Brazil. It was riding the crest of a boom that had mounted steadily from the end of World War II—on the back of rising coffee prices. Coffee provides 85% of all Colombia's export earnings.

Between 1950 and 1953, total exports climbed in a smooth curve from \$396-million to \$596-million. Imports kept pace—at a polite distance. Over the four years, Colombia earned a net surplus of about \$45-million a year.

At the same time, the country's economic development was going apace. It was industrializing. (Over 20% of the gross national product was accounted for by industry.) Diversification plans were in the wind: The land will grow almost anything, three crops a year in some places, and almost half the country is rich virgin plain. There are important, but barely tapped, deposits of iron, coal, and manganese.

Under the watchful eyes of the World Bank and other international agencies, the Colombians were on the whole spending their earnings shrewdly. There were some spendthrift projects—the most notorious was the integrated Paz del Rio steel mill that has cost the country almost \$200-million to date and is producing only 25,000 tons of steel a year instead of the projected 250,000. But by and large, Colombians—who have some of the best financial and executive talent in Latin America—made their money count. Their reputation for frugality and clean government was known throughout the hemisphere; the modest way the Colombian embassy was operated in Washington was a joke among the other free-spending Latins.

• **Coffee Supports**—That's all changed now. Government corruption has blossomed under Rojas. The country's credit rating with New York banks is one of the worst in Latin America.

Actually, payment to the piper was a long time in coming. While coffee stayed at 98¢ a lb., Colombia's high-grade mountain varieties brought in enough to allow Bogota to continue splurging on such non-essentials as two warships ordered in Sweden. But by mid-1954, Colombia's exports were



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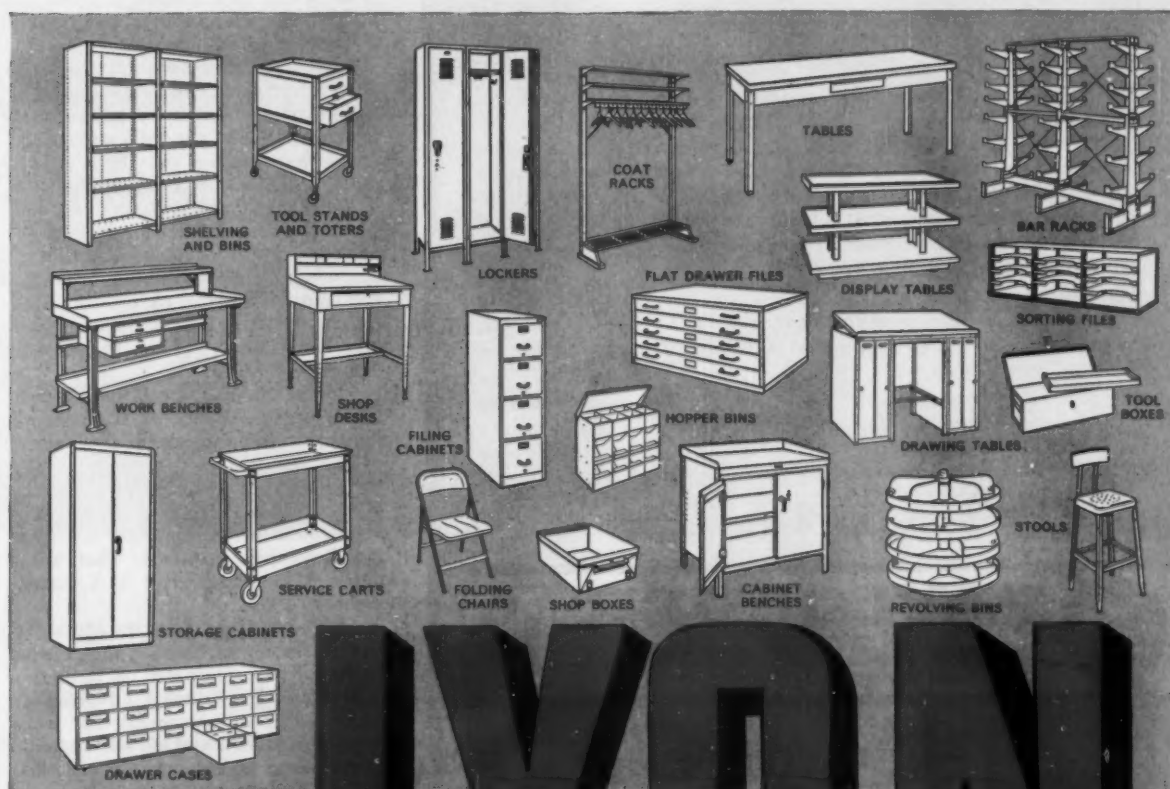
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28	BW

plunging as a result of 60¢ coffee prices. Yet, imports continued to rise.

• **Economic Collapse**—For a time, Rojas could blame the fall in coffee earnings for his problems. But when coffee rallied in 1955 and steadied between 70¢ and 80¢ with no corresponding recovery in the country's economy, that excuse began to sound hollow. You can see what happened in a few figures: Reserves dropped from \$257-million at the end of 1954 to around \$100-million today. For the first time since the war, Colombia ran a trade deficit in 1954. It grew: \$15-million in 1954; \$87-million in 1955; an estimated \$165-million in 1956.

The peso plunged from 2 1/2 to a dollar to 8 to the dollar on the free market. (It's about 6 to the dollar now.) The commercial backlog of debts owed U.S. and other foreign suppliers is running at about \$300-million and payments are nine months behind. A panicky flight of capital through all sorts of illegal dodges has developed. Internal inflation has flared. Wholesale prices have jumped 24%, the cost of living is up, 17% over 1953. And the government's deficit—on the order of 23% of the total budget in 1956—has nudged the inflation on.

There's general agreement that the two big leaks in the economy are military expenditures and heavy public investments. Military spending accounts for about 15% of the total government spending according to official figures; unofficially, they are estimated at 30%.

• **Fighting Chance**—That's the mess Morales inherited when he donned the financial mantle. If Rojas lets him do the necessary belt-tightening, observers give him a fighting chance. If Rojas interferes, as he has in the past with other ministers, they feel the crash is inevitable.

Morales has a solid rock on which to build: the confidence of U.S. private investors who during all the shenanigans of the last two years have never lost their faith in the future of the country. U.S. investors according to an early 1956 count had \$272-million tied up in the Colombian economy. That was a figure 41% bigger than U.S. investments in 1950.

This week, there was restrained optimism among members of the growing community of managers of U.S. subsidiaries in the booming city of Cali. There is general agreement that Rojas recognizes how desperate the situation is. And there is growing confidence that Morales can do the rescue job if anyone can.

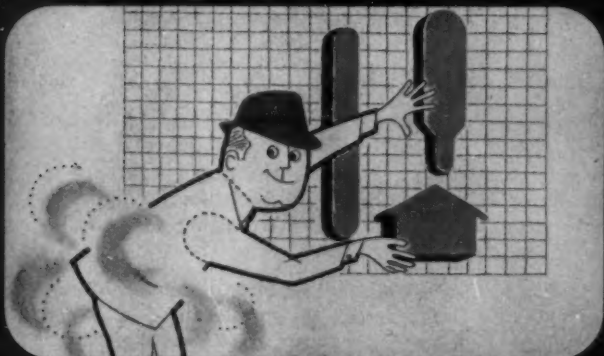
The real question is whether Rojas can afford to let Morales give the economy the dose of bitter medicine it needs. For that is bound to alienate the little remaining support the regime is able to buy with pork barrel. **END**



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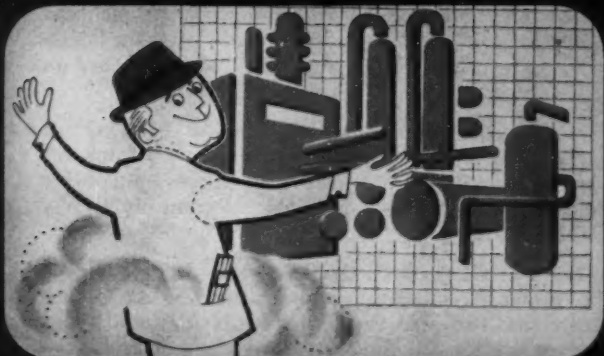
Economist . . .



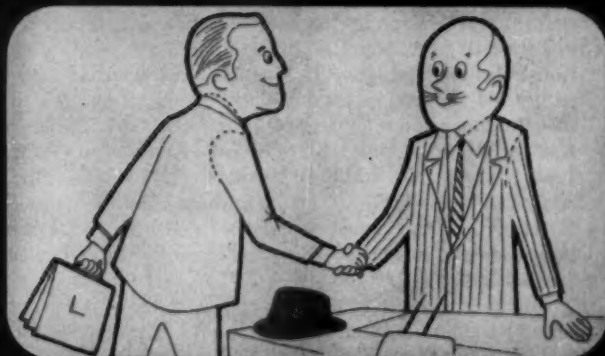
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In Business Abroad

. . .

In Paris the Phone Will Sing For You, Bring the News, Even Wake You Up

This week Parisian telephone subscribers had a new service available to them: Telechanson. From Monday through Friday between 9 and 11 a.m., a Paris housewife can pick up her phone and dial SUF 84-20. Then she can lean back and listen while Charles Trenet, Edith Piaf, Gilbert Beaud, and other chanteurs sing the latest popular ditties.

It's part of the PTT (government-owned Postal, Telegraph, and Telephone) attempt to give customers anything they need by phone. Other PTT services include a recorded news program that changes every hour, up-to-the-minute stock quotations, and a wake-up service.

. . .

Argentina Lures Foreign Capital Despite Its Limping Economy

Despite its rocky economy, Argentina is attracting private foreign capital.

During 1956—according to the anti-Peron caretaker government—43 foreign companies received approval for investments of \$27.6-million in new plants or modernization of older facilities. U.S. and West German companies led the way in total outlays. Some of the largest investments: Chas. Pfizer & Co., Inc., \$5.7-million; Kaiser Motors Corp., \$1.1-million; Remington Rand Liberia Corp., \$1.3-million; Lederle Laboratories Div., American Cyanamid Co., \$2.6-million; Abbott Laboratories, \$833,700; August Thyssen-Huette AG, \$1.9-million; Siemens & Halske AG, \$1.3-million; and Olivetti, \$4.4-million.

The government says another \$20-million worth of new foreign investments is now under consideration.

. . .

France Steps Up Sahara Oil Work Under Pressure of Suez Stoppage

Spurred by the Suez oil crisis, France is stepping up its development of oil production in the Sahara Desert.

During the past 10 years, French oil companies and the government have spent some \$540-million on exploration in the French Union. So far, this investment has brought only about 1.1-million tons of new oil annually—most of it from within France. But for the past two years, France has been betting on exploration of rich oil deposits in Algeria near the Libyan border (BW—Jan. 22'55, p114).

At one location, Hassi Messaoud, the total oil reserve is supposed to be around 1-billion tons; the pay zone, at least 522 ft. deep.

Now the French Ministry of Industry & Commerce

says outlays for oil exploration in the next five years alone will amount to \$675-million. During this year, about \$135-million will be spent—a third of it in the Sahara.

The two main French companies working the Sahara deposits are SNREPAL—jointly owned by the Algerian government and France's Bureau for Petroleum Exploration—and CREPS in which Royal Dutch Shell has a 35% interest.

One indication of the French government's interest in oil—and other minerals—in the Sahara is its decision to set up a Common Organization for the Sahara Regions. The organization, among other jobs, will be watchdog to keep out foreign claims—particularly those emanating from Morocco and Tunisia.

. . .

Business Abroad Briefs

Montecatini stock—in the form of American depositary receipts, each representing five Italian shares—will be traded on the N. Y. Stock Exchange beginning in mid-February. The mining and chemical company's accounting methods have delayed listing on the Big Board until now.

Israel's first steel furnace—one of two Siemens-Martin open hearths—has been put into operation at Acre (north of Haifa). The furnaces are part of a 100,000-ton-capacity steel plant, now being built by Histadrut, Israel's labor federation (BW—Dec. 15'56, p160).

Pepsi-Cola International is opening bottling plants at Albsthausen (West Germany) and Aden (Arabian Peninsula), bringing to 22 the number of plants opened in 1956. Pepsi now has 260 plants outside the U.S.

Lazaro Cardenas, former president of Mexico, one of the country's most popular men, last week threw his weight behind the argument for higher prices for Pemex, the Mexican government oil company (BW—Oct. 20'56, p30).

The Finns have been caught in the machinations of the Eastern European revolution and its economics. Poland and Romania, in the past supplying fuel to Finland as part of the three-way settlement of Helsinki's trade surplus with the Russians, now want Western currencies for their shipments.

Switzerland is prepared to pay for its neutrality: Since Hungary, the Swiss have upped their defense budget by \$65-million to pay for new British tanks, French jet fighters, and some prototypes of new British aircraft.

Esso Petroleum Co. of London has placed an order for two 45,000-ton tankers in the Netherlands. That raises the number of Esso supertankers now on order to 15.

Electronic Associates, Inc., Long Branch, N. J., will set up an analog computer center in Brussels next summer. It will be available on a rental basis, also will act as a sales office for computer equipment in Europe.

A motor tunnel, one of the world's longest, linking the Kashmir Valley with India has been thrown open for limited traffic. The \$6-million project is being built for the Indian government by a West German firm.

..Hello, sut yr ydyw chwi? Da iawn ydyw clywed eich llais un waith eto. Yr wyf..
 ..Hallo, hvordan har De det? Det er rart at høre Deres stemme igen...Det lyder..
 ..Hallo, hvorledes står det til?...Det er hyggelig å høre din stemme igjen...Du..
 ..Hallo, how sigt ey?...It is shoone van U te horoene...En zight eer good uit..
 ..Allo, comment ça va?...Ça fait plaisir de t'entendre de nouveau...Tu as l'air...



...Hallo, Wie geht's?...Freut mich wieder deine Stimme zu hören...Dir scheint...
 ..Hello, how are you?...It's good to hear your voice...You sound fine...
 ..Pronto, come va?...Sono contento di sentirti di nuovo...Sembri bene...
 ..Allo! ce mai face?...Ce bine îmi pare să te aud...Cred că ești bine...
 ..आप कैसे हो?...आप की आवाज़ सुनके सबके बड़ी खुश हुई।...आवाज़से आवाज़ ए..
 ..Hallo, hoe gaat het met U?...Het is mooi omwat van U te hooren...Ik hoort..
 ..Hallå, hur mår Du?...Det är roligt att höra Din röst igen...Du låter bra...

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Shh! The new Royal electric *speaks softly*

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INTERNATIONAL OUTLOOK

BUSINESS WEEK

JAN. 12, 1957



Sir Anthony Eden—the victim of failure and illness—retired this week as Prime Minister of Britain.

At midweek there was no certainty about his successor. But one thing was clear: Whoever takes over the reins of government must rally the Conservative Party behind him, and the country as well. Otherwise, the Conservatives will be forced into an early election—and almost certain defeat.

Once the new British government settles into office it will have to make some important policy decisions. In the offing are:

- A big cut in defense spending—big enough to appreciably lighten the burdens that have long strained the British economy.
- In the wake of such a cut, a reduction in the bank rate and a general easing of the credit brakes.
- Full steam ahead on "Free Trade with Europe"—a policy that now has the backing of both British parties.
- A determined effort, which will be reciprocated in Washington, to repair Anglo-American relations.

The clamor has been growing daily in London for a lower bank rate, and easier credit. The bond market already has been taking a reduction for granted; it has been marking up British government bonds.

At the same time, a drop in the British Treasury's bill rate from over 5% to 4¾% in the past month is taken as evidence that the Treasury is preparing the ground for a policy change.

It's possible that the upcoming reduction in the bank rate will coincide with a big debt funding operation and a stiff April budget. This would mark a shift in Britain from controlling the economy with monetary weapons to controlling it with fiscal and debt-management weapons.

—•—

The Eisenhower Doctrine for the Middle East has run into unexpectedly heavy opposition on Capitol Hill.

This week House Democrats tossed a substitute resolution into the hopper. If accepted, it would gut the President's policy—in the view of the Administration. In fact some Administration officials feel that it would leave the U. S. position in the Middle East weaker than before the President made his bid for Congressional support.

The Democratic draft—reportedly written by former Secy. of State Dean Acheson—would express the readiness of Congress to use force, if necessary, to preserve the independence of Middle East countries. But it would not give Eisenhower the power to use force without further Congressional approval. Nor would it give him any extra economic aid for the area.

At midweek the Democratic proposal didn't look as though it would get off the ground. House Speaker Sam Rayburn, who brought the substitute resolution into the open, quickly assured the Administration privately that he did not endorse it himself. Many congressmen seemed reluctant to back the substitute for fear the Russians might then feel they had a free hand in the Middle East.

But there's no doubt now about the strength of the Democratic opposition to giving Eisenhower what he wants—and especially to giving him a freer hand to offer economic aid. Then, you can't ignore the fact that the

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK

JAN. 12, 1957

Democrats feel as strongly about Secy. Dulles today as the Republicans used to feel about Acheson.

Final Congressional action may not come until mid-February. And it looks as though the President will have to accept some kind of terminal date on his authority to use force, and some strings on the use of aid.

The Administration's basic purposes remain unchanged. They are:

- To warn the Russians categorically against open aggression.
- To reassure friendly governments in the Middle East and Europe.
- To discourage Communist subversion by making clear that it can never be backed up with Russian military force.
- To attract Middle East governments to our side by promises of aid.

In dealing with Congress, however, Administration spokesmen put their emphasis this week on what the program is not intended to do. For example, it will not commit the U. S. automatically to come to the rescue of a victim of Soviet aggression; decisions on whether or not to act would be up to the President. It is not intended to bypass the United Nations; the U. S. would try to get U. N. action first, only intervene on its own if the U. N. were paralyzed by the Soviet veto.

The cost of the program will be modest, at least at the outset. Administration leaders took pains to reassure wary congressmen on this point. And they promised that the Administration will maintain its policy of limiting arms deliveries to the Middle East wherever there is any danger of the arms being used by Arabs against Israeli or vice versa.

Eisenhower and Dulles also are bidding for Afro-Asian neutralist support for the new policy by stressing the fact that it is not a disguised form of colonialism. The President wrote a personal letter of explanation to Indian Prime Minister Nehru this week and also announced plans for King Saud of Saudi Arabia to visit Washington.

Dulles is hopeful that the new policy will gain even Nasser's cooperation eventually. The Egyptian dictator already is under severe internal economic pressure and considerable diplomatic pressure from Arab and Asian countries. If Nasser can now be isolated from Russia and from some of the other Middle Eastern countries, Dulles figures, he may come to terms.

—•—

Unrest has spread from Eastern Europe into the Soviet Ukraine.

According to reliable reports, there has been an upsurge of nationalist feeling among Ukrainian students and intellectuals. They are demanding more local autonomy. If the Poles can achieve some kind of equality with the Russians, say the Ukrainian nationalists, why shouldn't we?

Moscow is cracking down already. There are some signs that the Kremlin intends to treat the Ukrainians about the same way Stalin did.

—•—

Despite the way the Suez crisis has snarled world trade patterns, it looks as if 1957 will be a boom year for U. S. foreign trade. Here's the way U. S. trade officials forecast the year—assuming good business here:

Exports (commercial): \$18-billion, against \$17-billion for 1956.

Imports: \$13.5-billion, against \$12.7-billion for 1956.

Investment outflow (net): \$3-billion, or the same as 1956.



How to save money before banking it

In 70 collection offices of General Electric Supply Company, a division of General Electric Company, all incoming checks from customers are photographed in low-cost Recordak Junior Microfilmers.

The simple routine of pressing a button and getting a picture did away with a written remittance slip describing each and every check; did away with "cashbook" entries, too.

The clerical savings in eliminating these relatively easy transcription jobs are substantial—run from \$1,000 per year for a small office to \$5,000 for a big city office.

Boosts daily bank balance

The speed of Recordak Microfilming makes it possible to deposit all incoming checks in local banks the same day they are received—even around the 10th of the month when volume is heaviest.

Many Additional Savings—tedious record keeping is bypassed in inventory reconciliation by microfilming records of incoming goods-in-transit and outgoing shipments. And it is no longer necessary to retype bids which must be submitted to the customer on his own forms. *Lots of short cuts like this!*

And each collection office, of course, now has photographically accurate film records, which can be filed in just 2% of the space previously required . . . and viewed sharp and clear in the Recordak Junior's built-in film reader.

FREE A valuable new booklet, "Short Cuts that Save Millions," shows how routines like yours have been simplified in thousands of companies; how Recordak Microfilmers are designed for all requirements . . . give you up to 80 pictures for 1¢.

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Gentlemen: Please send free copy of "Short Cuts that Save Millions."

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Financial Aid to Higher Education

A Fine Start, But...

This editorial has two purposes. The first is to salute American business for the fine start it has made in helping to relieve the financial plight of our colleges and universities. The second purpose is to stress the importance of having business provide more financial aid, and soon.

How Business Helps Higher Education

Business contributions to higher education doubled between 1950 and 1955. They jumped from \$40 million to \$80 million. Preliminary figures indicate they will be even higher this year.

Business firms have also shown a lot of ingenuity in devising different ways of making their contributions. The methods range from a matching of an employee's contribution to his particular alma mater to wide diffusion of the money through state and regional money-raising associations of colleges and universities. Thanks to this ingenuity, business firms now have a wide choice of ways by which to give effective aid. The way most appreciated by college administrators is the making of gifts unrestricted as to the purpose for which the money is used.

Imposing as it is, however, what business has done thus far is only a good start. Only a tiny fraction of the total number of business firms in the country are giving direct financial help to our colleges and universities; and this fraction includes fewer than half of the hundred largest corporations in the country. Also, the amount of financial help being provided by business constitutes only a very small fraction of what is needed.

Why Colleges Need More Aid

Right now our privately endowed colleges and universities need about \$350 million more in operating income a year than they are receiving to enable them to pay decent faculty salaries and be in tolerably good working order otherwise. The reasons, including a severe decline in the purchasing power of their endowment income because of price inflation, have been dealt with in the previous editorials in this series.

In addition, these institutions, together with the tax-supported schools, are faced with a tremendous increase in enrollment over the years ahead. With both a rapidly increasing population of young people and an increasing propor-

tion of them going to college, this year's enrollment of 3.2 million students is expected to reach 4.0 million by 1960, and to be doubled by 1970.

For the next ten years our privately supported colleges and universities must have an average of about \$400 million a year above what they can be expected to collect from tuition fees, income from endowment funds, etc.

This figure of \$400 million does not include what is needed for new buildings and equipment. It also does not include help for tax-supported schools above what they get from taxes, fees, etc. Business has given and will continue to give these schools substantial aid. Indeed, almost 25% of the financial help from business for our colleges and universities went to tax-supported schools in 1955.

If aid from business met their needs for increased operating income, the privately supported colleges and universities would be given a decisive lift in performing successfully their part in our system of higher education. They would still have large needs of capital equipment — buildings, dormitories, laboratories — but help from other sources, such as that provided by devoted alumni, where they are well organized, could be expected to go far toward meeting these needs. Also some companies prefer to concentrate on meeting needs of this type.

What 1 % of Profits Would Do

But do business firms have the capacity to fill the gap in adequate operating income for our privately endowed colleges and universities without putting an excessive financial burden on themselves? Those who have studied this capacity carefully say that the answer clearly is yes. If, of its profits before taxes — last year an estimated \$43 billion — business were to devote 1% to helping our privately en-

dowed colleges, it would take care of present operating needs of about \$350 million a year. And the balance of \$80 million would be a big step in meeting their needs for new buildings and equipment, too.

About one half of a 1% contribution of this sort would, in effect, be made by the federal government. Up to a limit of 5%, contributions of this type are exempt from the federal corporate income tax. For corporations with incomes above \$25,000 per year this tax is 52%.

It is clear that not all business firms are in shape to devote 1% of their profits to aid to higher education. Even in this year of record-breaking prosperity, many of them will have no profits at all. But if business generally would take 1% of pre-tax profits as a target or benchmark for financial help to our privately endowed colleges and universities these institutions would again have sturdy financial foundations.

Relatively this is a very small price to pay (1) to insure a continuing supply of competently trained young men and women and (2) to buttress our freedom by assuring the successful survival of the privately supported sector of our system of higher education.

This is one of a series of editorials prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nationwide developments of particular concern to the business and professional community served by our industrial and technical publications.

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Donald C. McGraw
PRESIDENT

McGRAW-HILL PUBLISHING COMPANY, INC.

FINANCE

SAN FRANCISCO Stock Exchange (right) and its old rival Los Angeles are teaming up to give Chicago a run for first place among regional exchanges.

LOS ANGELES specialist (below) can now talk right to San Francisco counterpart, make deal in seconds.



Phone Link

THANKS to the special telephone circuit that joins them together, the two stock exchanges you see in the pictures—at San Francisco and Los Angeles—are now united in a firm matrimonial knot. And their union in the newly created Pacific Coast Stock Exchange adds something unique to the country's securities markets—an exchange that functions on two trading floors 400 miles apart.

The San Francisco and Los Angeles exchanges tied the knot last week after a courtship that lasted 18 months (BW—Jun.11'55,p62). It was hope of increased trading volume that made the union—the principals decline to call it a merger—desirable. Modern high-speed communication made it possible. The special telephone circuit joining them has no duplicate outside the Civil Aeronautics Authority. Through it, a seller on one trading floor can find a buyer on the other in seconds.

The two old exchanges survive as divisions of the new one. Each retains its own executive officers and staff,



Makes Two Markets Into One



BUY OFFER

Los Angeles specialist Chester L. Noble has broker's buy offer, gets on direct line.



"I'LL SELL," says Richard P. Gross, San Francisco specialist in same stock—just 8 sec. after Noble got offer.



MARKEM

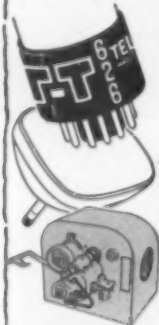
solved these
marking problems

imprinting bulky, multi-wall bags

Hand-stamping large, unwieldy shipping bags before filling with raw plastic compounds proved slow, costly and poor in quality. The Markem Method now does it faster and better — using a Markem 25A machine to imprint consecutive lot number, type, color, grade, etc. Quality is excellent, production has doubled.



positive identification of TV tubes by manufacturers



Base branding of TV tubes by the manufacturer — with trademark, code number, etc. — must be clear, durable, fast-drying — and match production rates as well. Markem 52A machines answer all these needs, and add the advantage of marking tubes in cartons, on conveyor lines, even those installed in sets.

screen process printing plastic bowls

After using a slow, costly, spray gun-and-stencil method to mark plastic bowls, the manufacturer began screen printing them with the new Markem 90S machine. Two distinct, durable and fast-drying imprints are now made on each bowl, at rates to 600 per hour. Adjustable gauges handle various bowl sizes.



Let the modern Markem Method make your product identification and decoration economical and attractive. Write Markem Machine Co., Keene 33, N. H.



SAN FRANCISCO stock exchange president, Ronald E. Kachler, chats with specialists; he's now head of Northern Div. of new exchange.



LOS ANGELES exchange, now Southern Div., is headed by William G. Paul (right); he's talking with Frank E. Naley, chairman of governors.

while management of the combined operation is vested in a board of governors under a chairmanship that alternates annually between the cities. San Francisco's William H. Agnew of Shuman, Agnew & Co. is the first chairman. Frank E. Naley of Los Angeles is vice-chairman.

• **From Rivals to Friends**—The old exchanges were created in the last century when gold and silver mining in the north and oil drilling in the south started California on its long climb to economic maturity. They flourished as they provided the channel through which Western business could obtain capital for growth. In recent years, however, members became increasingly conscious that substantial trading volume was trickling through their fingers to New York's two major markets. One survey indicated that 10% of the volume on the New York and American stock exchanges originated in California.

In July, 1955, the two California cities relaxed their traditional rivalry far enough to link their trading floors by direct wire and provide alternative markets for 75 selected national stock issues. As this device tended to flush out new buyers and sellers in the rival mar-

kets, the list of stocks was expanded. Now, with functional unity and fast communication, the common list embraces all issues on both exchanges—a total of 539 after duplications of listings are eliminated, including many common stocks also listed in Wall Street's marts.

• **Hopes**—The Pacific Exchange starts life with all the enthusiasm that can greet a new venture. There's an optimism on both floors that volume on the Pacific Exchange will, in about two years, pass that of the Midwest Exchange in Chicago, which now ranks first among regional markets. San Francisco ranked second last year, with volume of 20-million shares valued at \$385-million. Los Angeles was third with about 18-million shares traded for \$345-million. Midwest traded some 25.8-million shares valued at around \$981-million.

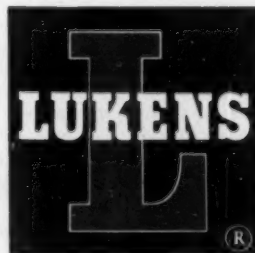
Only time will tell whether the newly combined resources of the coast can give Midwest a tussle for the top spot. But when you see the new high-speed telephone system in operation, you can understand the California brokers' enthusiasm.

• **Ten Seconds Flat**—Take a couple of



SPECIAL STEELS FOR A SPECIAL LADY

■ The vast hull of the new supercarrier, *U.S.S. Saratoga*, rises from a keel of Lukens high tensile steel plate. Lukens armor plate protects her flanks. Lukens alloy steel forms vessel walls in her vital hydraulic system—holds back the terrific pressure of her boilers. And drums faced with Lukens clad steel stand ready to brake her main shaft. Important jobs in shipbuilding, as in equipment building, often call for the wide variety of special steels . . . and the specialized knowledge . . . Lukens has to offer. Fabricators have long benefited by teaming up with Lukens. This has been going on in shipbuilding, for example, since 1825 when Lukens delivered the plates for the *Codorus*, first iron-hulled steamship ever built.



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World's Leading Producer of Specialty Carbon, Alloy, Armor & Clad Steel Plate • Plate Shapes • For Qualified Equipment Builders



Let's take a good long look ahead

We predict that this New Year of 1957 will be one of America's important growth years, offering expanding opportunities to you and to your business.

At present the estimated U. S. population is 170,000,000.

Ten years hence, population is due for a 16% increase — and the Bureau of the Census now predicts a total of 221,000,000 American consumers by 1975.

Will you win your proper share of this impressive total as consumers of your product? The answer depends on two essential things: ability to expand your productive capacity and ability to attract more and more of these new customers.

Make Them Think Well of You

No doubt you are planning to expand your plant capacity to keep pace. But to insure your expected share of sales, you need well-rounded and far-sighted promotional plans. You need the selling power of top-quality printed pieces to tell your story — well-printed booklets, brochures, broadsides, bulletins, folders, manuals, catalogs, reports, annuals, special announcements.

This selling literature should make people think well of your product, decide in favor of your brand.

You can accomplish this objective if

your printed pieces are inviting to read and study, if they portray your sales points in sharp, clear type and halftones, in crisp color, and on quality paper that bears witness to your reputation.

Your Colleague—A Good Printer

Your staunch friend in the creation of high grade sales literature is a good printer. Call him in at the start of the job and take advantage of his skill. You'll save yourself work, time and money.

The good printer who wants to turn out a top-quality job with economy will turn to Warren's Standard Printing Papers. He knows that Warren papers give him uniform, brilliant surfaces that print beautifully, and produce literature that wins customers. *S. D. Warren Co., 89 Broad Street, Boston 1, Massachusetts.*

BETTER PAPER — BETTER PRINTING

REG. U.S. PAT. OFF.



typical transactions last week. Stewart, Eubanks, Meyerson & Co. phoned the San Francisco floor with an offer to sell 500 shares of Celanese common at 15½. A phone clerk on the floor hollered the offer across the well to Richard P. Gross, the Stone & Youngberg partner who is the specialist in Celanese stock. A glance at his "book" told Gross he could take 100 at that price. What about the other 400 shares?

Gross lifted a special handset phone from its cradle, pressed the "talk" button that put him through instantly to the Los Angeles floor. He uttered the single word, "Celanese," and his voice emerged from 14 tiny loudspeakers on the desks of as many specialists in Los Angeles.

H. Kenneth Powell of Adams-Fastnow Co., the Los Angeles specialist in Celanese, picked up his handset, pressed the button, and heard Gross say, "There are 500 Celanese to sell at 15½. I'll take 100. How about you?"

Powell, wanting to lengthen his position in the issue, said "I'll take 200." Elapsed time—about 10 seconds.

• **Less for New York**—This left Stewart, Eubanks 200 shares to peddle in New York. Before the new setup, however, a commission house might not even have offered the stock on the coast. On a large round lot, the fraction of a point that can be lost in the precious moments it takes to field such an offer in an unpromising market can be costly.

As the new exchange demonstrates its ability to absorb larger transactions, less and less of the Western trading will be shunted to New York.

• **No Time Lost**—Even more dramatic was the purchase order handled by Barry M. Newman, also of Stone & Youngberg, the San Francisco specialist in Atlas Corp. stock. A broker on the floor came to Newman's post with an offer to buy 1,000 Atlas at 10. Newman's "book" was in good balance, however, and he said, "I'm not selling."

At the same moment he grabbed his special phone, barked into it "Atlas Corp." As specialist John E. Wheeler came on the line in Los Angeles, Newman said, "1,000 here to buy at 10." Wheeler, needing to tighten up his position on Atlas, replied immediately, "I'll sell it," and the deal was closed. It took eight to 10 seconds at most.

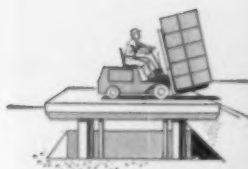
It's doubtful that the offer would have been made in the West before the intercity line was in operation. In this case, even if it had been made there, the whole transaction would have been diverted to New York.

• **Multiplying the Time Advantage**—Unification of the two trading floors enhances the unique position that the Western exchanges enjoy because of the three-hour time differential between coasts. Although the West Coast markets, of necessity, open at the same time

New Issues - 1956

Purchased and Offered by Halsey, Stuart & Co. Inc. alone or with associates*

Amount of Issue	Tax-Exempt	Amount of Issue	Corporate	Underwriting Interest
\$ 15,000,000	ALABAMA HIGHWAY AUTHORITY† Var. Rates Bonds, Due 1958-75	\$250,000,000	AMERICAN TELEPHONE AND TELEGRAPH COMPANY† 34 Year 3½% Debentures, Due July 1, 1990	\$23,150,000
6,000,000	ALLEGHENY COUNTY INST. DIST., PA. 2½% Bonds, Due 1957-86	35,000,000	BELL TELEPHONE COMPANY OF PENNSYLVANIA 40 Year 3¼% Debentures, Due March 1, 1996	7,950,000
25,045,000	BALTIMORE, MD.† 2½% & 2¼% Bonds, Due 1958-82	11,430,000	BOSTON AND MAINE RAILROAD EQUIPMENT TRUST, SERIES 1, 4½% Certificates, Due 1957-71	4,755,000
8,000,000	BETHLEHEM AUTHORITY, PA. Var. Rates Rev. Bonds, Due 1959-96	13,800,000	CHESAPEAKE AND OHIO RAILWAY EQUIPMENT TRUSTS OF 1956 3½% & 3¼% Certificates, Due 1957-71	5,925,000
20,000,000	BOSTON, MASS. (4 issues) Var. Rates Notes, Due 1956	40,000,000	THE COLUMBIA GAS SYSTEM, INC. 3½% Debentures, Series F, Due 1981	5,450,000
50,000,000	CALIFORNIA, STATE OF† Var. Rates Bonds, Due 1958-77	40,000,000	COMMONWEALTH EDISON COMPANY First Mtge. 3½% Bonds, Series R, Due 1986	6,750,000
54,930,000	CHELAN COUNTY P.U.D. NO. 1, WASH.† Hydro-Electric System Revenue Bonds (2 Issues) Var. Rates, Due 1959-2003	40,000,000	CONSUMERS POWER COMPANY First Mtge. Bonds, 4% Series due 1986	6,700,000
22,000,000	CHICAGO, ILL.† 2¼% & 1¼% Bonds, Due 1958-75	10,000,000	DALLAS POWER & LIGHT COMPANY First Mtge. Bonds, 4¼% Series due 1986	3,300,000
8,495,000	CINCINNATI, OHIO Var. Rates Bonds, Due 1957-96	9,030,000	ERIE RAILROAD EQUIPMENT TRUSTS OF 1956 & 57 3½% & 4¼% Certificates, Due 1957-72	3,630,000
100,000,000	CONNECTICUT, STATE OF† 2½% & 2.90% Rev. Bonds, Due 1961-93	20,000,000	GENERAL TELEPHONE COMPANY OF CALIFORNIA First Mtge. Bonds, Series J, Due 1986 (4½%)	4,350,000
5,040,000	COOK CO. H/S/D NO. 212, LEYDEN, ILL.† 4% Bonds, Due 1957-76	15,000,000	GULF STATES UTILITIES COMPANY First Mtge. Bonds, 4¼% Series due 1986	4,000,000
14,000,000	DEARBORN SCHOOL DISTRICT, MICH.† Var. Rates Bonds, Due 1956-73	30,000,000	HOUSTON LIGHTING & POWER COMPANY First Mtge. Bonds, 3¼% Series due 1986	9,600,000
5,370,000	FLINT, MICH.† Var. Rates Bonds, Due 1958-86	10,000,000	INDIANAPOLIS POWER & LIGHT COMPANY First Mtge. Bonds, 3½% Series, due 1986	7,550,000
15,500,000	GEORGIA RURAL ROADS AUTHORITY† 4% & 2¼% Rev. Bonds, Due 1958-72	11,250,000	LOUISVILLE AND NASHVILLE RAILROAD EQUIP- MENT TRUSTS, SERIES O & P, 3 & 3½% Cfs., Due 1957-71	3,825,000
166,000,000	GRANT COUNTY P.U.D. NO. 2, WASH.† 3½% Rev. Bonds, Due 2005	20,000,000	LONG ISLAND LIGHTING COMPANY First Mtge. Bonds, Series I, 4¼%, Due 1986	4,350,000
5,800,000	HAGERSTOWN, MD. Var. Rates Bonds, Due 1957-81	23,000,000	MISSOURI PACIFIC RAILROAD COMPANY Collateral Trust 4¼% Notes due 1976	2,760,000
20,000,000	HAWAII, TERRITORY OF† 4½% & 3.80% Rev. Bonds, Due 1958-86 & 3¼% Bonds, Due 1959-76 (2 issues)	22,481,000	MONTREAL, THE CITY OF (CANADA)† 4¼% & 4½% U.S. Debentures Due 1958-76	2,450,000
17,000,000	HOUSTON, TEX.† Var. Rates Bonds, Due 1957-81	11,500,000	MONTREAL TRANSPORTATION COMMISSION† 4½% Sinking Fund Debentures, Due 1976	950,000
7,133,000	KANSAS CITY, MO.† Var. Rates Bonds, Due 1957-76	25,000,000	MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY 34 Year 3½% Debentures, Due June 1, 1990	4,900,000
40,000,000	LOS ANGELES, CALIF.† Var. Rates Bonds, Due 1957-76	15,000,000	NORTHERN ILLINOIS GAS COMPANY First Mtge. Bonds, 3¼% Series due 1981	12,750,000
6,000,000	MAHONING VALLEY SANITARY DIST., OHIO 3½% Bonds, Due 1957-76	50,000,000	PUBLIC SERVICE ELECTRIC AND GAS COMPANY First & Ref. Mtge. Bonds, 4¼% Series due 1986	6,600,000
163,245,000	MEMPHIS, TENN.† Var. Rates Rev. Bonds, Due 1963-77 & 1992	60,000,000	SOUTHERN BELL TELEPHONE AND TELEGRAPH COMPANY 27 Year 4% Debentures, Due October 1, 1983	6,150,000
41,000,000	MICHIGAN, STATE OF† (2 issues) Var. Rates Rev. Bonds, Due 1957-79	40,000,000	SOUTHERN CALIFORNIA GAS COMPANY First Mtge. Bonds, Series B, due 1981 (3½%)	10,150,000
19,648,000	NASSAU COUNTY, N.Y.† 3.40% Bonds, Due 1957-85	35,000,000	SOUTHERN PACIFIC COMPANY First Mtge. Bonds, 5¼%, Series H, Due 1983	5,150,000
25,000,000	NEW JERSEY HIGHWAY AUTHORITY† 4½% Rev. Bonds, Due 1988	9,600,000	Equip. Trust Cfs., Series VV, 4% Due 1957-71	2,775,000
5,550,000	NEW ORLEANS, LA. Var. Rates Bonds, Due 1957-95	80,000,000	TENNESSEE GAS TRANSMISSION COMPANY† First Mtge. Pipe Line Bonds, 4¼% Ser. due 1976 & 4½% Debentures due January 1, 1977	4,168,000
48,624,000	NEW YORK SCHOOL DISTRICTS Var. Rates Bonds, Due 1956-86 (20 issues)	10,000,000	TEXAS POWER & LIGHT COMPANY First Mtge. Bonds, 4¼% Series due 1986	6,550,000
50,000,000	OHIO, STATE OF† Var. Rates Rev. Bonds, Due 1956-72	23,350,000	ADDITIONAL PUBLIC UTILITY BONDS (5 issues)	11,850,000
11,026,000	OKLAHOMA CITY, OKLA.† (2 issues) Var. Rates Bonds, Due 1958-81	71,823,000	ADDITIONAL EQUIPMENT TRUST CERTIFICATES— (18 issues)	37,258,000
20,000,000	OMAHA SCHOOL DISTRICT, NEBR.† Var. Rates Bonds, Due 1958-77	Descriptive circulars or prospectuses, where available, and current quotations will be supplied for any of these securities upon request.		
20,000,000	PENNSYLVANIA, GEN. STATE AU- THORITY Var. Rates Bonds, Due 1958-82	*To December 19, 1956 †Issues headed jointly by Halsey, Stuart & Co. Inc. and others. All other issues were headed by Halsey, Stuart & Co. Inc. alone. Not included in these compilations are issues in which Halsey, Stuart & Co. Inc. partici- pated only as a member of an account.		
12,000,000	PHILADELPHIA SCHOOL DIST., PA.† Var. Rates Bonds, Due 1958-81	Send for Year-End Bond Survey and Tax Chart Concise survey of 1956 bond market and outlook for 1957, and comparison chart based upon individual Federal tax rates now in effect—to help you determine the value of tax exemption in your income bracket. Write without obligation for folders BJ-56.		
66,152,000	PHILADELPHIA, PA.† (2 issues) Var. Rates Bonds, Due 1957-87			
7,250,000	POWER AUTHORITY OF STATE OF N.Y.† Var. Rates Rev. Bonds, Due 1961-85			
10,000,000	SALT RIVER PROJECT, ARIZ.† Var. Rates Bonds, Due 1960-87			
5,000,000	TACOMA, WASH. Var. Rates Rev. Bonds, Due 1959-79	HALSEY, STUART & CO. INC. 123 S. LA SALLE STREET, CHICAGO 90 • 35 WALL STREET, NEW YORK 5 AND OTHER PRINCIPAL CITIES		
6,200,000	TULSA, OKLA. (2 issues) Var. Rates Bonds, Due 1958-81			
8,000,000	WASHINGTON COUNTY, MD. 3½% & 2.90% Bonds, Due 1957-81			
6,421,000	YONKERS, N.Y.† 3.30% Bonds, Due 1957-76			
164,643,750	ADDITIONAL TAX-EXEMPT BONDS— (120 Issues)			



1,000
TO 100,000 LB.
CAPACITIES



Rotary Levelator. Lifts handle heavy loads faster and cheaper

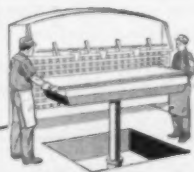
Adaptable to many uses—Economical Rotary Levelator Lifts permit loading and unloading trucks and freight cars direct from plant floor level. Expensive loading docks and ramps are eliminated . . . buildings may be erected on grade at big savings in construction costs. Levelator Lifts also solve the problem of moving materials from one floor level to another and can be used in other ways to speed plant traffic and cut labor costs. When lowered, the lift is level

with the plant floor and can be trucked over. Installation is easy, and there's no maintenance problem.

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LEVELATOR® LIFTS

as the New York exchanges—10 a.m. in New York, 7 a.m. Pacific time on the coast—they close two hours later.

News that can influence market values—stock splits, Eisenhower's health, dividend decisions—often breaks after New York has closed at 3:30 p.m. and before the Western markets close at 2:30 p.m. Pacific time (or 5:30 p.m. in New York). Then the Western trading floors are likely to be flooded with orders from Eastern brokers eager to act. With their combined resources, the Western markets will be in a better position to meet the flood.

• **Key**—The full-time, intercity telephone line is the key to the two-floor operation. It's a single-voice circuit that flares out at both ends into a number of extensions, one for each specialist post—15 in San Francisco, 14 in Los Angeles.

At each post the extension feeds into a special handset and loudspeaker system, monitored by a single lamp that lights when the circuit is in use. The low-volume speakers serve only as annunciators; conversations are carried on through the handsets.

• **How They Started**—The San Francisco exchange with 80 members, and the Los Angeles exchange with 60, played significant roles in the industrial development of California. The old San Francisco Mining Exchange, founded in 1862, was so engrossed in the securities of the Mother Lode and the Comstock Lode that it wouldn't list the stocks of the booming power, traction, gas, and water utilities, and the shipping companies. Such issues, plus those of banks and insurance companies, and even the scrip of the city government, were traded over-the-counter.

Then in 1882, a handful of brokers got together, drew up a charter, deposited \$50 each for membership, and the San Francisco Stock & Bond Exchange was in business.

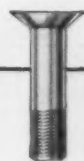
A few months later, non-charter memberships commanded a price of \$500. Today each membership is backed up by \$4,300 cash and government bonds in the Exchange's treasury. And that's after a distribution of \$17,500 per member a few years ago, when the exchange sold its debt-free office building adjoining the trading center.

The Los Angeles stock exchange was started in 1899 as an oil exchange, but soon broadened the scope of its trading and dropped the word oil from its name. It is still distinguished, however, by a high number of oil issues among the 430 stocks that it lists.

W. G. Paul, president of the Los Angeles exchange, continues as president of the Southern Div. of the new market, as does Ronald E. Kaehler in San Francisco for the Northern Div. **END**

Aviation Memo:

Now, One Recess One Tool Design will do every aircraft fastening job



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and it's the only fastener that will meet your future requirements, too.

1 TORQ-SET by American now enables you to do every fastening job with just *one* recess design. TORQ-SET's exclusive recess will adapt itself to all head configurations in an unlimited range of sizes.

2 TORQ-SET is the only recess available today that can meet the requirements of the future. It is the only fastener with a wrenching recess capable of delivering torque values far in excess of present aircraft requirements. For instance, the average torquing ability of the $\frac{3}{4}$ " TORQ-SET is 2540 inch pounds, 58% higher than actually required.

3 TORQ-SET permits simple one-piece tooling, that adjusts easily to any type wrenching unit, allows "close-to-head" operation on every fastening job.

4 TORQ-SET fasteners are mass produced in quantities to assure you of the proper supply for doing all your aircraft fastening jobs. It is a completely forged product — made in a single operation to precision specifications.

5 TORQ-SET can be power-driven tighter than any other fastener in every fastening job. This is made possible by the unique wrenching recess with driving walls that form a direct axis for driving. And TORQ-SET is supplied in high-strength alloy steels (including the newer heat-resistant types) and is designed to permit extremely high wrenchability without burring or distortion.

Find out how TORQ-SET can help solve your production problems. Write, wire or phone, American Screw Co., Willimantic, Conn.

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cost-cutters by the bushel



Shell cores for valve bodies produced by Marsh Valve Co., Dunkirk, N. Y.

...made with **DUREZ PHENOLIC**

As so often happens with new techniques in industry, the economy of casting metal in shell molds and cores has depended on new developments from chemical research.

It's quite a trick to produce shells of resin-bonded sand—pastry-thin yet foundry-tough—into which you can pour molten metal that cools into smooth-surfaced castings. Or it *was*, so long as problems of warping, peel-off, and so on dogged the foundry industry.

Then Durez research in the chemistry of

phenolics developed bonding resins that simplified the whole procedure. Costly steps can now be by-passed. Savings in material, time, and labor are such that castings of simple or complex form are being mass-produced with outstanding economy.

This is another example of how Durez helps to make resins serve industries in new ways. In *your* operations there may be opportunity to profit by the strength of phenolics, their insulating value and resistance to humidity, heat, cold, and chemicals. Let us send you our latest Durez bulletin.



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DUREZ PLASTICS DIVISION

HOOKEE ELECTROCHEMICAL COMPANY

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In Finance

• • •

Paper Industry Tries to Expand Too Fast, Says Head of Company

The paper industry might prudently slow its expansion for a while, says David L. Luke, president of West Virginia Pulp & Paper Co., even though his company reports record sales and earnings for the year ended Oct. 31.

Luke warns that headlong construction of new mills could lead to temporary overcapacity at a time when money for such expansion is hard to come by. The addition of mills requiring stockpiles of pulpwood, he adds, could also lead to overcutting of softwoods and overloading of the streams down which the wood is floated. He noted that some companies have already postponed projects for adding to plant.

• • •

Auto Sales Lag, Says Ford Man, And Easier Credit Might Help

Ford Motor Co. economist George P. Hitchings says easier credit would encourage domestic auto sales. This adds a second voice to General Motors Corp. Pres. Harlow H. Curtice's earlier plea for the same economic stimulant.

Hitchings notes that domestic car sales so far this year are falling behind the industry's expectation of a 10% increase for 1957.

However, Hitchings doesn't blame tight credit for the lag. He attributes it to a slower buildup in production and to late introduction of the industry's medium-priced lines. Cars in the lower price range, he says, are selling at a rate 10% above last year's.

• • •

Dumaine and Alpert Have It Out Once More Over the New Haven

Double trouble faces George Alpert, the New York, New Haven & Hartford RR's third president in two and a half years:

- For the 11 months ended Nov. 30, the New Haven showed a loss of \$214,089, compared with a \$4-million profit in the same period of 1955.

- A special Massachusetts legislative commission that's investigating the New Haven's affairs lambasted Alpert personally.

The state commission charged Alpert, who will celebrate his first anniversary in office on Jan. 20, with giving testimony that was "misleading to the point of bordering on, if not actually involving, deliberate false statements while under oath." Alpert retorted that the commission had been too ready to believe Frederic C.

Dumaine, Jr., who in mid-1954 was unseated as president of the road by Patrick B. McGinnis, Alpert's predecessor. Alpert said some of Dumaine's testimony had been "irresponsible and fantastic."

Alpert had clashed with the commission when he refused to make available the minutes of the board of directors and the executive committee, on the ground that they contained information beyond the scope of the investigation. This issue has been brought before the Massachusetts Supreme Court.

According to the commission's report, Dumaine indicated that "Mr. Alpert in one speculative deal that may have cost the railroad as much as \$6-million represented the seller and the railroad both." The transaction, said the commission, was "almost unbelievably bad for the railroad." Alpert said he hoped to have a chance to refute Dumaine's statements.

One bright spot for the railroad: October and November earnings made modest gains over the year before. And the 7% boost in freight rates just granted by ICC helps to perk up the 1957 earnings outlook, though the Eastern rails generally claim the hike is too small.

• • •

Growth of S&L Assets Slows With Dip in Home Building

Growth of savings and loan associations, which are estimated to now hold between 35% and 40% of the nation's home mortgages, slowed last year, but it remained substantial. Assets jumped 15% during the year, to a new total of \$43.2-billion. This gain pales somewhat beside the record 19% leap taken in 1955.

Roy M. Marr, president of the U.S. Savings & Loan League, attributes the slowdown in growth to a decline in home building during the year. This resulted in a 9% slide in the number of homes financed by savings associations in 1956. The league estimates that 365,000 of the 1.1-million homes built last year were financed by savings associations, compared with 400,000 out of 1.3-million in 1955.

• • •

Finance Briefs

More than three-quarters of the assets of the nation's self-insured corporate pension funds were invested in corporate securities at the end of 1955, the SEC reports. All told, the assets had a book value of \$14.2-billion, a market value of \$15.9-billion. On a market value basis, corporate bonds were 44.6% of the total; common stock was 30.2%—including 5.9% in the stock of the pension funds' own companies.

Competition for savings on the Pacific Coast is getting hotter (BW-Dec.29'56,p74). The Bank of America last week raised its interest rate on savings accounts from 2% to 3%; San Francisco's Home Federal Savings & Loan Assn. increased its dividend rate to shareholders from 3½% to 4%. A Home Federal spokesman explained that Los Angeles S&Ls were already paying 4% and "millions of dollars have been going south" to take advantage of the higher rate.



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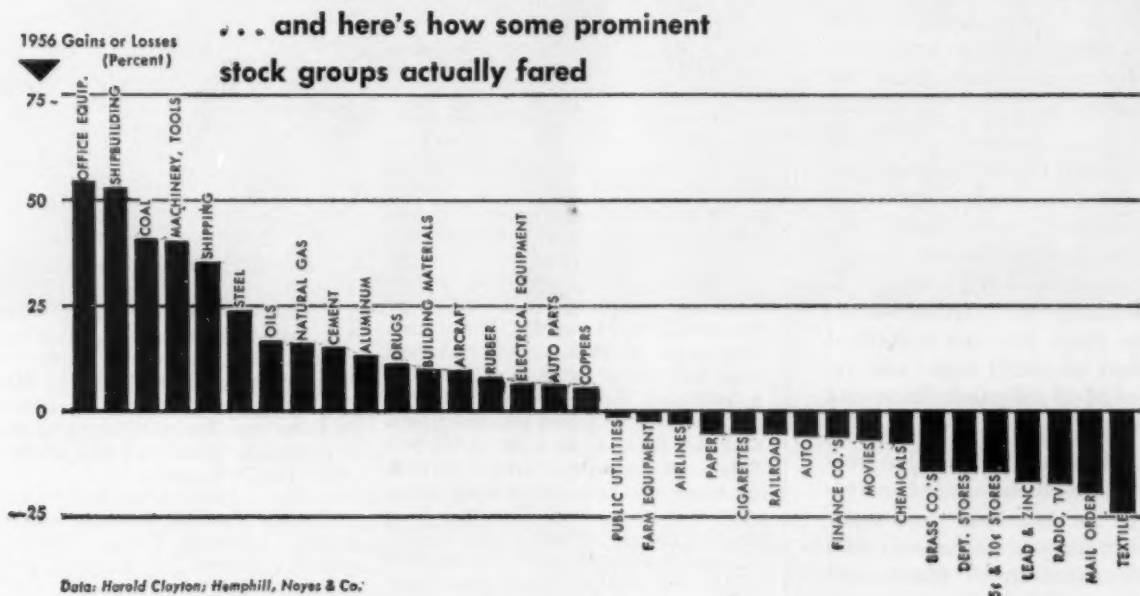
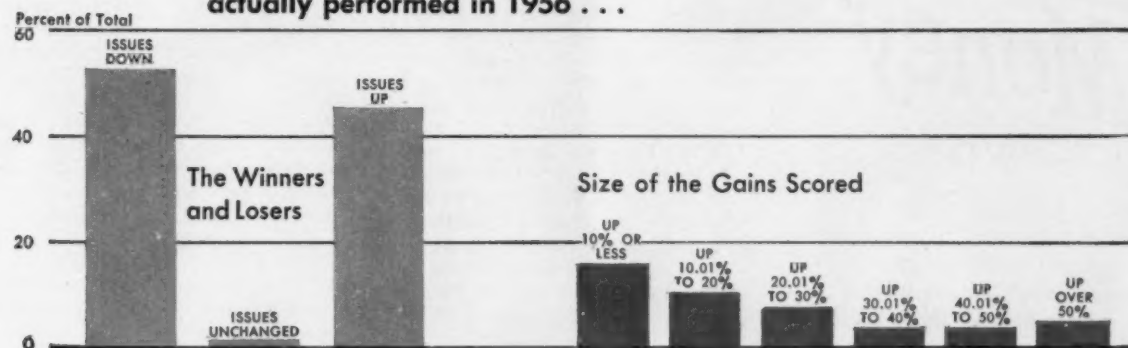


AND CORPORATION

THE MARKETS

The 1956 Stock Market: A Post-Mortem

Here's how 1,030 Big Board commons actually performed in 1956 . . .



Data: Harold Clayton, Hemphill, Noyes & Co.

Was It the Year of the Turnaround?

Wall Streeters are asking themselves: Will 1956 be marked down as the year that saw a turnaround in the biggest bull market in history?

Almost any chart of any stock average seems to indicate, at best, a drastic slowing down of the price rise that picked up in the fall of 1953 after a shaky nine months. That "pickup" was colossal, by any measure. Standard & Poor's Index of 50 industrial stocks gained 49% in 1954, another 30% in 1955, for the two best back-to-back bull market years in history. Last year, however, this index nudged upward a paltry

3.4%, after being as much as 10% higher at one point.

• **More Laggards Than Gainers**—As thousands of investors have found out in recent years, the averages and indexes don't tell the whole story. Many Street analysts prefer to use "breadth of the market" studies, encompassing every stock listed on the New York Stock Exchange. In these terms, last year's showing was even poorer than the averages indicate (charts above). For instance, of the 1,030 actively traded commons on the Big Board, only 45.5% showed any gain at all

last year. Another 1.4% didn't show either a plus or minus for the year. A majority of issues, 53.1%, actually declined.

Not only did fewer stocks gain ground last year, but the gains, as the indexes indicate, were lower. Of the 45.5% issues that did gain in 1956, 26% were up less than 20%. Only 11% of the issues listed could work up the sort of gains that the industrial index had shown in 1955, by spurting up 30% or better.

• **Shifts in Favorites**—Behind the slowdown in the bull market price rise was a

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dramatic shift in investors' preferences for commons. As in previous bull markets as they neared their tops, long-time favorites begin to fade. Such erstwhile bull market leaders as paper shares, chemicals, airlines, and autos closed the year 1956 on the minus side of the ledger. A new line-up of favorites has taken their place, as such groups as machinery—which spent much of last year in the doldrums—steels, shipping, shipbuilding, and bituminous coal move to the fore. Long-time favorites that have still survived include: office equipment, oils, cement and building materials, and drugs.

• **What They See**—As the bull market moves into its eighth calendar year, Wall Street's top analysts are becoming more firmly convinced that a setback in stock prices is in order. There are some analysts who believe that it will be three years or more before any new bull market highs will eclipse those of early 1956.

They say that the market's relatively logy action in 1956 provides one significant clue to the slump they see coming. Tight money—"always associated with historic bull market tops," says one Streeter—and an expected slowdown in both earnings and dividends are other key reasons. Streeters are also concerned about fast-shrinking corporate profit margins.

The biggest disagreement about the expected slump in stock prices is how deep it will be and how long it might last. But a rough consensus of opinion looks for a drop of 25% to 30% over the next 18 to 24 months. The average adjustment of stock prices downward from bull market peaks is 42%.

• **Secondary Signal**—So far this year, the market hasn't shown much pep, and is already living up to some earlier predictions of increasing activity in secondary issues—with interest shifting somewhat from those blue chips that have long led the market and heavily weight the market averages. Earlier in the bull market, the averages would often score gains even when more issues actually declined than advanced. This indicated a concentration of investors' buying power on the stocks in the averages. In three of the first five sessions this year, however, the reverse was true: Though more issues advanced than declined, the averages either declined or, in one case, stood still.

This growing interest in secondary issues, which stems largely from the preoccupation with "selectivity" and the hunt for the "best buys," may put some more commissions in brokers' pockets, but at the same time it worries the analysts. "A marked pickup in activity among secondary issues is one of the standout traits of a bull market's dying days," says an old-time Wall Streeter glumly.

Wall St. Talks . . .

. . . about high cost of
new issues . . . thin markets
. . . increase in stock dividends
. . . the outlook.

The new issues market is in for a thorough testing in the weeks ahead. Some \$2.3-billion of corporate bond and preferred offerings are in the offing, and new municipal offerings in the next 30 days alone are slated to exceed \$400-million. What this flood will do to new-money borrowing rates remains to be seen. But signs are appearing. On Monday, Idaho Power had to pay a 4.55% rate when selling \$20-million long-term bonds, the costliest borrowing operation any similarly rated electric utility has encountered since October, 1934. On Tuesday, New England Tel. & Tel. sold \$35-million long-term bonds on a 4.65% basis, costliest borrowing by a Mother Bell subsidiary since October, 1929.

Thin markets continue to produce pyrotechnics. On trades involving only 350 shares one day last week, Superior Oil Co. (Calif.) stock, the Big Board's highest-priced issue, jumped \$105—almost 9%—to a new all-time high of \$1,315.

Stock dividends hit a new high in 1956, as expected (BW—Nov. 24 '56, p50). Standard & Poor's Corp. figures 412 well-known companies made such disbursements, compared with 314 (previous record high) in 1955. Many Streeters expect this trend to continue for some time due to the growing need of companies to husband cash resources (BW—Dec. 29 '56, p30).

"In the chemical business," reports Stauffer Chemical Corp., "there's a general condition . . . of lagging prices and narrowed profit margins."

"Pro" views of stock market prospects: You may see "some further near-term advance . . . but looking further ahead . . . we continue to see the prospect of a broad trading range, with diverse movements . . . again placing a premium on shrewd selection of holdings." (Standard & Poor's Corp.) . . . "the common-sense approach . . . would be to prepare now for buying opportunities that are apt to come later rather than earlier" by weeding out "non-promising stocks" and reinvesting proceeds of such sales "deliberately as openings appear. If you don't see any reinvestment that attracts you now, we don't believe anything will be lost by waiting—keeping your powder dry." (Moody's Stock Survey.)



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FOR YEARS, movie makers have relied on the powerful carbon arc to light their motion picture studio sets. It gives them brilliant, man-made "sunlight" for use when and where it is needed.


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But the carbon arc is not limited to studio lighting alone. Its intense beam is also used to project the tiny picture on the film to the breathtaking realism and depth you see on theatre screens.

Many more uses of this amazing light have been developed—duplicating the effect of sunlight on new paint and textile colors . . . or analyzing the basic composition of a great many different materials. The scientists of Union Carbide will continue their research efforts to find new and better ways to make carbon serve all of us.

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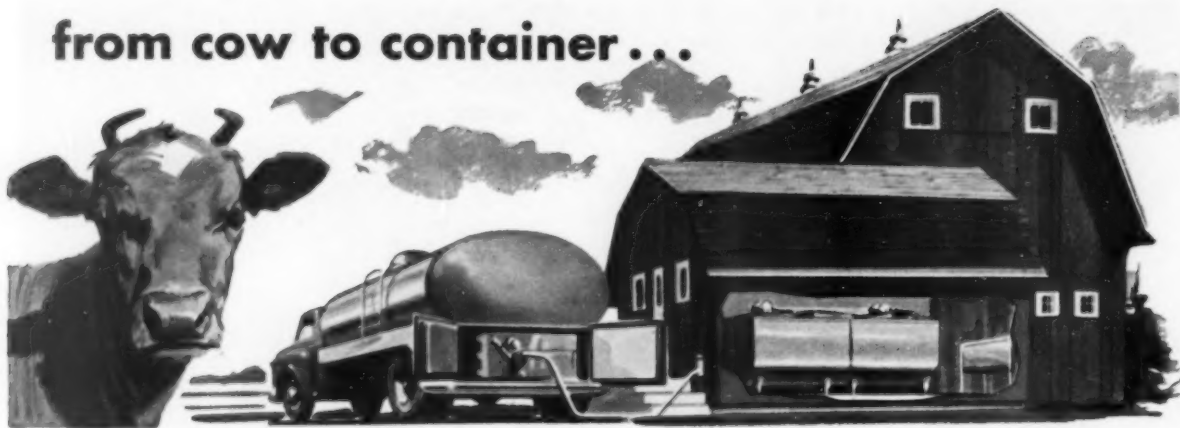
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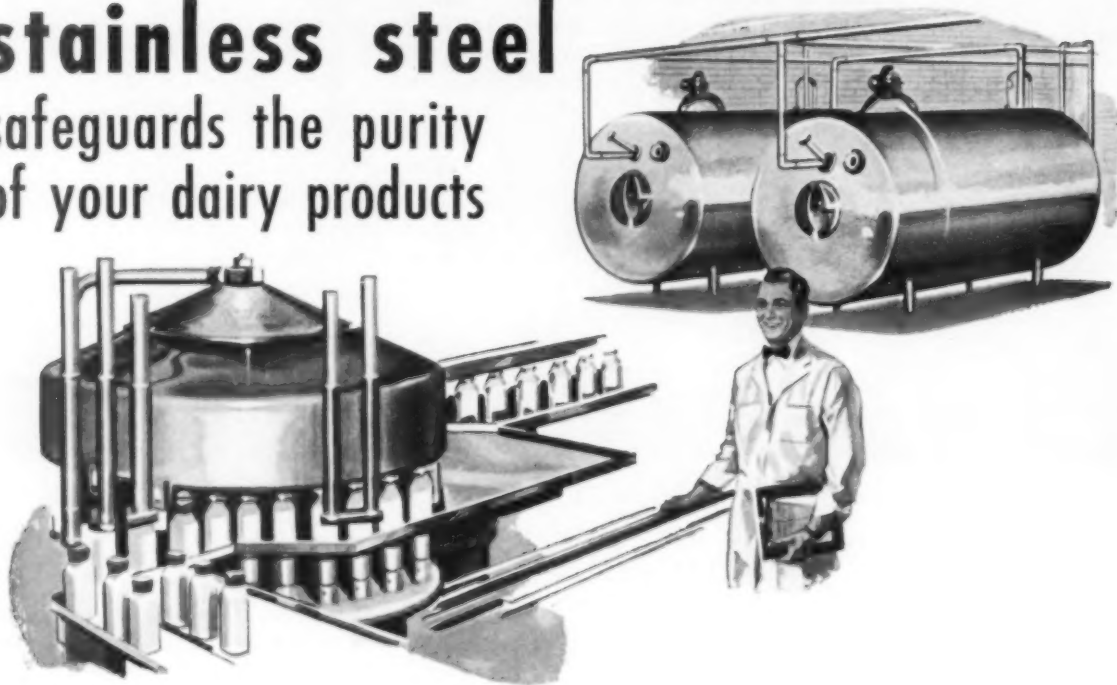
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PERSONAL BUSINESS

BUSINESS WEEK

JAN. 12, 1957



If you collect stamps as a hobby—or a youngster in your family does—why not go a step further and consider their investment potential? This can mean more fun—and more profits, long-term—than you may realize. For you, stamp investing can add to a pastime much of the zest of fruitful portfolio management; for a youngster, it can amount to pleasant, early instruction in planning and handling finances. True, you're not apt to match the luck of the Englishman who a few days ago turned \$5.60 into \$28,000 by buying a sheet of stamps that had no perforations. But you will have a good chance for a 5% to 10% yearly return (by way of appreciation)—plus some intriguing profit possibilities if you hold your stamps 15 years or more.

Best bet for a beginner—stamps showing the greatest appreciation—are **unused U. S. commemorative issues**, issued by the Post Office, usually marking historical events or honoring outstanding people. If you or your father had spent \$100 a year on stamps, and had bought every commemorative as it was issued from 1913 through 1929, your \$1,700 investment today would be worth something like \$120,000—a 6,000% gain. If you had bought just a single sheet of each commemorative issued from 1930 through 1940, your outlay of \$342.98 would have snowballed into \$928 at today's values. Your investment in the 1940-1950 period, \$262.80, would be worth \$585 today.

This profit picture doesn't include **occasional spectacular buys** that read like a Wall Streeter's dream. For example, \$100 put into Alexander Graham Bell 10¢ stamps in 1940 would today be worth \$1,400.

Why the great appreciation? The answer: **supply and demand**. Twelve-million stamp collectors in the U. S.—with at least 150,000 new ones coming along each year—keep values going up and up. There is a limited issue of each commemorative. After issue, the supply keeps going down—85% goes for postage, and of the remainder, many stamps are eventually lost, destroyed, damaged. Thus, the supply in the hands of dealers and collectors slowly diminishes. Meantime, the demand steadily increases. **The years have shown that there is little or no chance of any long-term decline in the stamp market.**

A built-in price bottom is a big incentive, too, for the buyer of American commemoratives. Even if he has to sell out fast, he rarely gets less than 5% below the face value of his stamps, because they always have a value as postage. (The post office won't take them back, but they can be resold to stamp users.) **Other unique advantages:** The investor's Wall Street is his nearest post office. When he buys there he pays no brokerage commission; and he can start investing with just a few dollars.

There is more to stamp investing, though, than simply stepping across to the local post office. Here are a few basic rules:

- **Buy stamps at face value**—that is, get recent issues. You can probably buy most recent commemoratives at the post office in your city or town; if you live in a major city, you may find a special philatelic window. Also, you can get commemoratives by mail order. For details, write to Philatelic Div., Post Office Dept., Washington, D. C.

- **Buy unused commemoratives and air mail issues**—to get the greatest appreciation. But don't buy each new issue as it comes out. Hold off a bit; often you'll be able to get a clearer view of appreciation prospects. You can follow market conditions by subscribing to reliable stamp magazines and services. (Any reliable dealer can tell you which are the best.)

PERSONAL BUSINESS (Continued)

BUSINESS WEEK

JAN. 12, 1957

- **Buy stamps in good condition.** Get them well-centered, without scratches or tears, and fully gummed. Quality helps determine value, for resale to collectors.

- **Buy low denominations—1¢, 2¢, and 3¢ issues.** You'll gain more from normal appreciation. A 1¢ stamp doubles in value when it jumps in value to 2¢; a 10¢ stamp that goes up a penny gains only 10%.

- **Buy issues that have the smallest printings;** the Post Office Dept. announces the figure for each issue, in advance.

- **Spread your holdings over a number of issues.**

- **Store your collection carefully;** if it's quite valuable, insure it.

- **Hold stamps 10 to 15 years, at least.** Early selling rarely brings any profit. Values are established slowly; after 10 years, the curve goes up fast.

Selling is no great problem—except for recent issues. You can sell to a local stamp dealer, or act as your own agent by advertising in stamp publications. There is also a bid and asked market in stamps, with a brokerage fee of 3% to 5% for sales. Recent issues can be sold through discount companies that resell to large firms that use much postage; usually you get 3% to 5% under face value.

As a starter, write to the U. S. Government Printing Office, Washington 25, D. C., for the booklet, *Postage Stamps of the U. S.* (65¢).

—•—

Have you considered equipping your home with fire extinguishers? They can give you added protection against fire, burns (the second most common type of home injury), and loss of life and property.

Two extinguishers are adequate for most homes—with the exception of those in the estate class. One should be for control of liquid fires (grease, oil, gasoline); the second for fires of ordinary combustible materials (clothing, paper, wood). If you have a special hazard area—a home workshop, a laboratory, a kids' playroom in the attic—you should probably add a third extinguisher.

Best place for the "liquid" extinguisher is the kitchen, preferably on a wall away from the stove; for the "ordinary" fire extinguisher, some easily accessible part of the living area—such as on a closet wall near an exit from the house.

Be sure to get extinguishers that all members of your family can handle. Those containing about 4 lb. of extinguishing agent (water, carbon dioxide, or dry chemical) with a total weight of about 10 lb. are considered most suitable for home use. Best bet is an extinguisher that bears a label of the Underwriters Laboratories (UL), Factory Mutual Laboratories (FML), or Underwriters Laboratories of Canada (ULC). The label will say whether the device is suitable for Class A (ordinary fires) or Class B (liquid fires).

Cost of extinguishers ranges from \$1 to \$65. Officially recommended units will cost \$15 up, depending on type and size.

—•—

Note for your calendar: The quarterly payment of Social Security tax for domestics, covering the last three months of 1956, is due Jan. 31. Don't forget that under the revised Social Security law the amount you withhold and pay as your contribution is increased to 2¼% effective Jan. 1. Thus, on your return due Apr. 31, you will report a total tax of 4½%. Incidentally, you needn't report to the Internal Revenue Service the amount of compensation you pay a servant.

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“It'll last a lifetime—thanks to Alloys”

Neutrancel: the newest reason why Hammermill Bond prints better, types better, looks better



New beauty for your Hammermill Bond letterheads —with hardwood's finer fibers

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New printing methods and business machines created a demand for specific paper qualities best obtained by blending different papermaking fibers. Now—with its exclusive Neutrancel process—Hammermill has unlocked the special fiber qualities nature grows in northern hardwoods to improve the blend of pulps that goes into its fine papers.

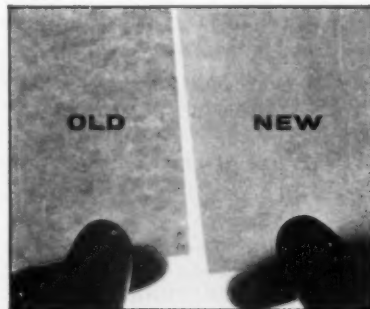
● Neutrancel's special properties blend with other quality fibers to give new

Hammermill Bond a smoother, velvety surface as well as a clearer, more attractive formation. And—Neutrancel® lends increased opacity plus greater bulk—gives your Hammermill Bond letterheads both pleasing eye appeal and quality-denoting "heavy feel."

Only a few months ago, Hammermill-invented centrifugal cleaners were installed to make Hammermill Bond cleaner than ever before. Now we add Neutrancel, a \$6,000,000 step forward which brings you Hammermill Bond that 1) prints better; 2) types better; 3) looks better. Ask your printer to show you samples. Hammermill Paper Company, Erie 6, Pennsylvania.



Printers everywhere use Hammermill Bond. Many display this shield.



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with Neutrancel's finer fibers, costs no more

In Management

David Stern Moves in as Publisher To Bolster Daily News

How can a newspaper afford to publish a more costly edition—even if it taps a potentially high circulation—when advertising revenues don't keep pace? That's the dilemma faced by management of the Philadelphia Daily News. To find the solution, owner and chairman Matthew H. McCloskey gave over the publisher's reins to a new man last week: 47-year-old David (Tommy) Stern, III, now publisher of the New Orleans Item.

Last fall the News added a home edition (BW-Sep. 22'56,p70), which boosted circulation from about 80,000 to more than 200,000. But advertising revenues went up only an estimated 4%. Meanwhile, distribution costs were huge; a community 15 miles west of the city was serviced, for instance, although it had only a dozen subscribers. Even the most conservative estimates of how much McCloskey was losing ran to \$60,000 a month.

Stern's appointment was announced concurrently with a belt-tightening program that has so far resulted in the discharge of 74 staffmen, under a special agreement with the Newspaper Guild to disregard seniority temporarily. The News staff had grown from 84 when McCloskey took over in 1954 to 214 just before the mass dismissals.

Stern's job will be to get ad revenue up fast enough so the losses on the home edition won't require it to be dropped. At the Item, similarly a third paper in a city, he has doubled the revenues since he took over in 1949. No stranger to Philadelphia, he handled department store advertising for his father's Philadelphia Record before it folded just 10 years ago. The Sterns and the McCloskeys have long been friends, and the triumvirate who run the News now—president, general manager, and editor—are all Record alumni.

That Old Double Standard Applies Even to Getting Fired

"Men are more inclined to commit one major infraction of a rule or custom and be fired for it, while women are more likely to be discharged for a combination of several minor causes." So concludes a new survey by the American Management Assn. on why employees are fired.

Poor job performance—a combination of low output and inferior quality—was the most common cause of dismissal, cited in 43% of the cases. Men, however, were fired for this reason only about half as often as their female co-workers. Dismissals for falsified applications, theft, alcoholism, malicious damage, "disobedience," and—in one case—acting as a bookie were fairly common among male employees.

The second most frequent cause for firing—absenteeism—was the reason given for getting rid of 37% of the men, but only 9% of the women. This, AMA feels, doesn't contradict the notion that absenteeism is more prevalent among women. It merely indicates that, be-

MORE NEWS ABOUT MANAGEMENT ON:

- P. 164 . . . GM's 25% turnover of top executives last year was the acid test of its "management in depth."
- P. 170 . . . Novelties and gimmicks born of the shortage of skilled men.

cause of this assumption, many employers "are inclined to overlook a certain amount of lost time by female workers."

"Poor attitudes" and failure to get along with other workers, which AMA considers "much the same thing," were third on the list, but were mentioned in only about 13% of the cases studied.

Business Failures Rose in 1956 To Highest Toll in 15 Years

More businesses bit the dust last year than in any year since 1941 (BW-Dec.8'56,p148), but the business birth rate went up, too. That kept the business population at about 4.25-million companies.

Dun & Bradstreet, the credit reporting agency, estimates that 12,750 businesses failed last year. This is 16% more than in 1955, and dollar liability of the failures was up 25%—to \$565-million. Tight money, stiffer competition, and the boom in mergers were the chief factors working against the small businessman.

Management Briefs

IBM is going out of its way to make available the results of its research and development activities. It is publishing a new slick-paper quarterly journal with charts, pictures, and progress reports by its R&D scientists. Subscription price: \$3.50 a year.

American philanthropy increased \$100-million last year to a new high of \$6.1-billion, says the American Assn. of Fund-Raising Counsel. Corporations made up \$550-million of the total, with foundations giving a nearly equal amount.

General Dynamics' Convair division is using another idea to get publicity for its technical discoveries. To encourage scientists to write up findings for scholarly journals—most of which don't pay for contributions—the company pays \$150 for each such article by a Convair man that is printed. Articles must be cleared by writer's supervisor, security, and the public relations. So far, 41 men have collected for 33 articles.

Two big, old names in electrical product manufacturing are now one. Thomas A. Edison, Inc., and McGraw Electric Co. have merged into a 23-division organization that will turn out both industrial goods and such consumer lines as Voicewriter and Toastmaster. The new company estimates total annual sales at \$250-million, says it will be fourth biggest in the industry.



S. Morgan Smith Company Reports:

“Mechanized helps make more

Says Vice President in Charge of Sales:

“Huge hydraulic turbines, highly special valves for a myriad of uses, giant compressors for supersonic wind tunnels, and the other highly engineered items we make demand specialized, trained salesmen. We’ve got a small staff covering several different markets. Seeing that their time is used efficiently is a problem!”

“No question—business magazine advertising speeds our sales operations. The salesmen can utilize their talents on helping solve engineering problems, helping customers make decisions—they don’t have to spend hours pre-selling the company or proving that we’ve made 18-foot butterfly valves or 150,000 horsepower turbines before now. Prospects already know our name, reputation, quality, even where our equipment has not yet been used.

“Not only does that leave our men more time for technical discussion, but there are other very important side benefits as well. These apply in recruiting, purchasing, and in discussions of expansion and diversification. In all areas, we gain efficiency through recognition.”

BURWELL B. SMITH
Vice President, Sales
S. Morgan Smith Company
York, Pennsylvania

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Advertising in McGraw-Hill magazines can selectively deliver your sales message to the right men with efficiency and economy. Its readership paves the way for your sales force, reaches key men your salesmen cannot see—and young men who will influence tomorrow's sales. Your advertising, properly placed, augments and strengthens your sales efforts, makes your sales program more productive and profitable.

McGraw-Hill Magazines

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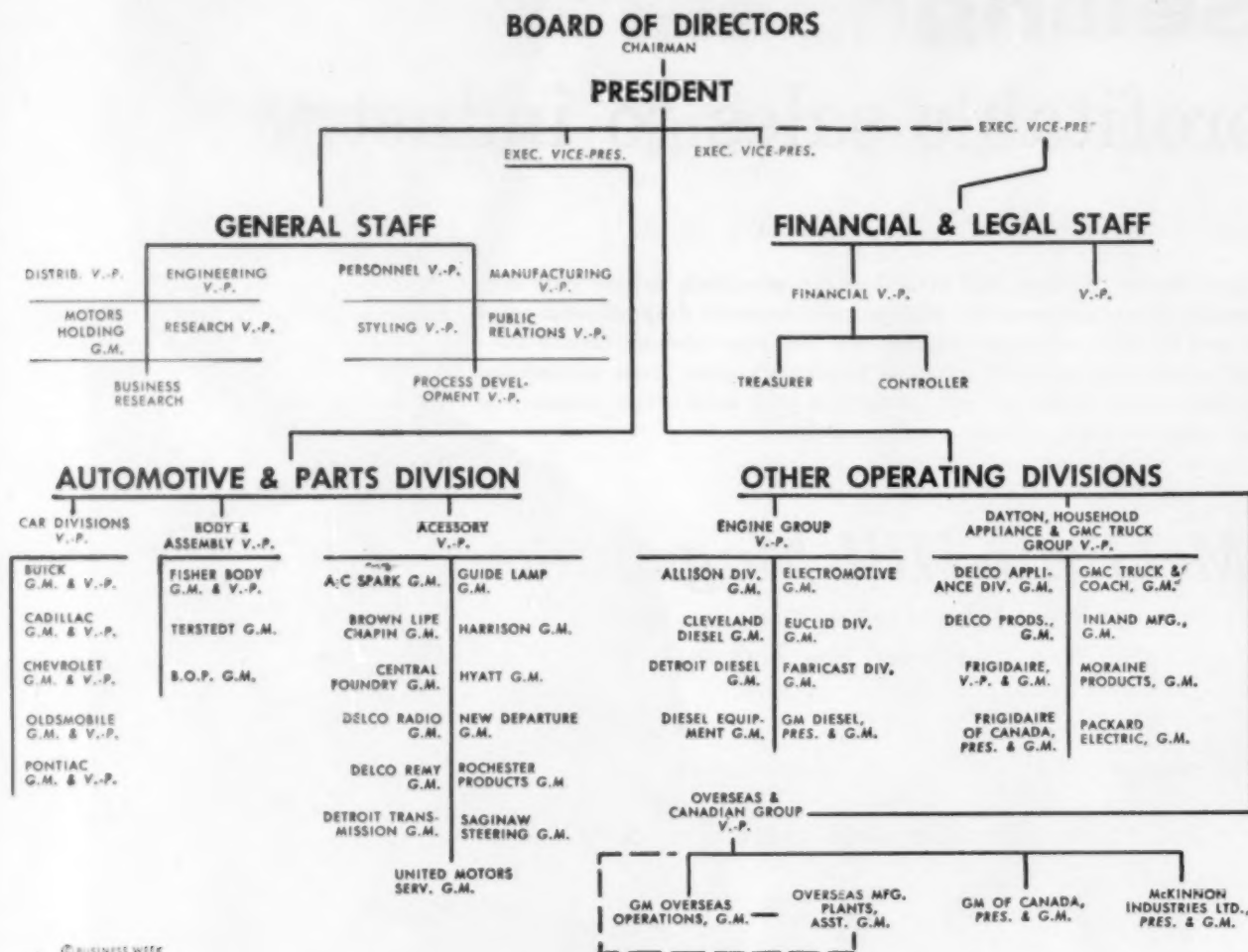


Six Steps to Successful Selling



■ MORE ADVERTISING HERE MEANS
■ MORE SALES TIME HERE

In 1956, GM had a 25% turnover of top executives — It was the big test of its "management in depth"



Plenty of Men for Any Spot

As the old French proverb has it: "The more things change, the more they are the same." The titles in color in the chart above indicate top executive jobs—chairman, staff vice-presidencies, or operating general managers—that changed hands at General Motors Corp. in 1956.

But the work of the corporation goes smoothly on as before, because the transition was orderly, predicted, and planned—a seeming contradiction because General Motors has no formal management development or executive training program.

• **Sweeping Change**—There are new

feet under the desks in about 25% of the corporation's high-echelon offices. At almost any other company, such a sweeping change—including the retirement of the chairman and four of the 29 vice-presidents—would signal distress, a wholesale management shake-up or, at the very least, a "youth movement."

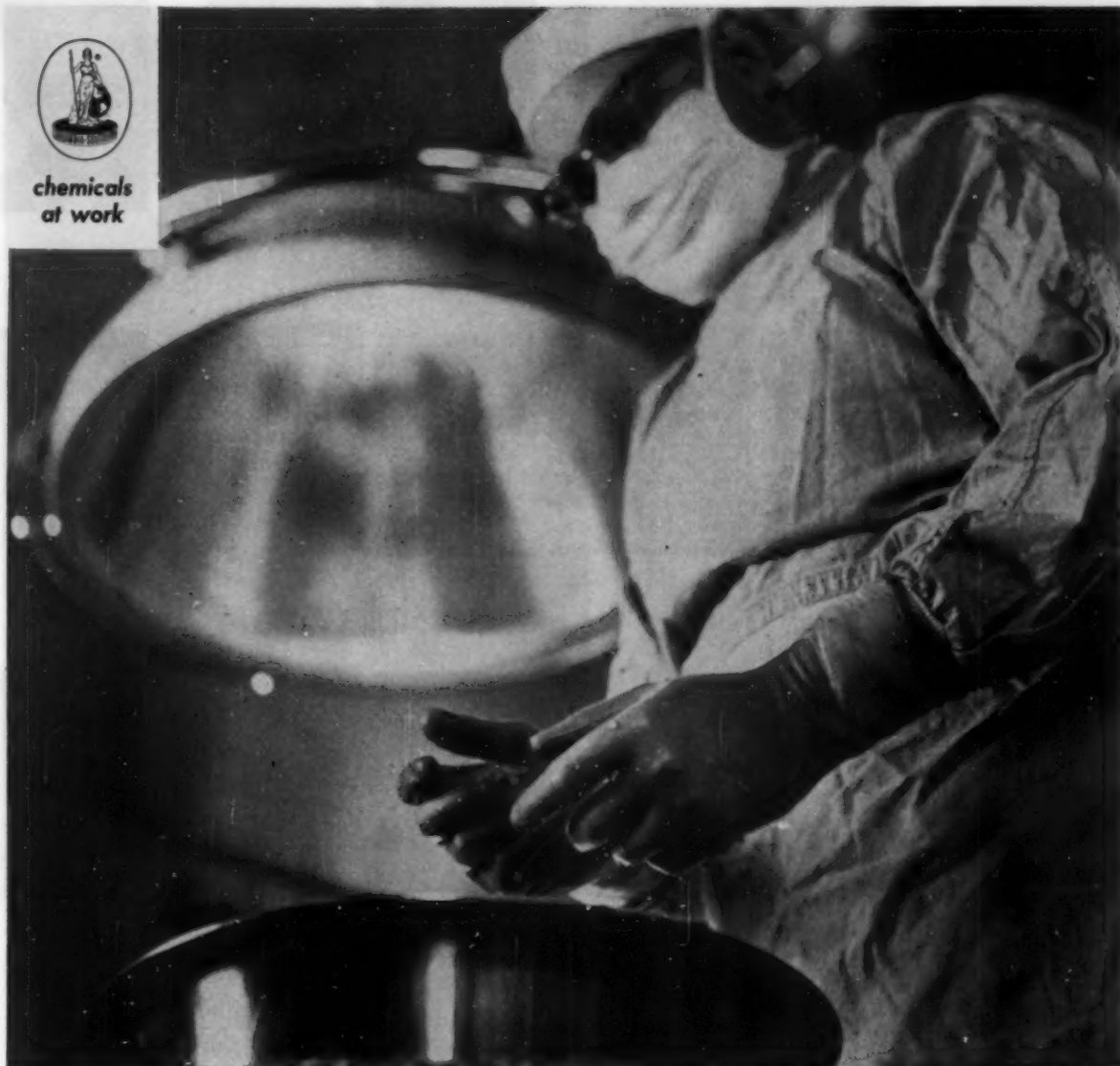
Although GM is close-mouthed about the real reason for many of its shifts, there are indeed some elements of both shake-up and youth movement in some of them. Still, the cardinal point is that General Motors is so deep in talent that what happened last year is merely that GM's junior class is taking over.

The changes at the upper level of management are only part of the story. Every time one of the top jobs changed, a host of other switches occurred below. GM can absorb the shock of changing one-quarter of its executives in less than 12 months chiefly because all those who moved up came from within the company. The average term of GM service of the "juniors" is 28 years.

• **In Depth**—That is General Motors' fabled "management in depth." How it works in practice can be illustrated by the recent changing of the guard. On Dec. 31, two of the most important staff vice-presidents—dealing with em-



**chemicals
at work**



Hospitals today are exceedingly sterile conscious. Chlorine continues to play a big role in modern sanitation.

12% of the mothers died before chlorine came along!

In the mid 19th century, before anyone knew much about germs and infection, deaths from "childbed fever" were notoriously high.

Ignaz Philipp Semmelweis, a Vienna doctor, was among the first to recognize this as a blood poisoning caused by lack of sanitation. He arrived at his conclusion when one of his colleagues accidentally cut himself with a scalpel while performing an autopsy, and died shortly after. Semmelweis recognized the importance of the event: here was a *man* who had succumbed to childbed fever!

To test his theory, Semmelweis

ordered stringent disinfection procedures in the maternity clinic under his supervision. The mortality rate dropped dramatically . . . from 12% to 3% in less than a year. In the ensuing year, it was further reduced to about 1%.

An important feature of this sanitation was that he prescribed the use of chlorine water for disinfecting hands and instruments. While other disinfectants have been developed since, sanitation continues to remain one of the chief uses of chlorine . . . not only in hospitals but in schools, public institutions, water supply systems, on the farm and in the home.

One of the convenient forms of chlorine is Pitchlor,[®] a high-test granular calcium hypochlorite, containing a minimum of 70% available chlorine.

Pitchlor is a chemical specialty of Columbia-Southern, the world's largest merchant producer of chlorine . . . and a leader in alkalis and related chemicals.

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**CHLORINE, ALKALIES, AND RELATED CHEMICALS
OFFICES IN PRINCIPAL CITIES**

IN CANADA: Standard Chemical Limited and its
Commercial Chemicals Division

37 YEARS with GM, largely on financial matters but also on distribution and export, Albert Bradley, 65, moved up to chairman from executive vice-president on financial policy.



28 YEARS with GM, comptroller at Oakland and Buick and general manager at Buick since 1948, Ivan Wiles, 58, was made an executive vice-president for dealer relations, a new job.



30 YEARS with GM, starting as an accountant and becoming vice-president for finance in 1941, F. G. Donner, 54, succeeded Bradley as the top financial policy man in the corporation.



29 YEARS with GM, in the treasurer's office and as finance manager for overseas operations, George Russell, 51, became vice-president of the financial staff after a term as treasurer.



24 YEARS with GM, starting as time-keeper at Frigidaire, later a cost accountant there, R. C. Gerstenberg, 47, also worked as a comptroller before his appointment as treasurer.



40 YEARS with GM, coming up through sales to general manager of Chevrolet Div., Thomas H. Keating, 62, a vice-president, last year became group executive for all car divisions.



17 YEARS with GM, experienced in engineering and making autos, aircraft, and diesel engines, Semon Knudsen, 44, moved into Pontiac Div. as general manager and vice-president.



28 YEARS with GM, all of them with Frigidaire, where he headed the sales organization, Herman Lehman, 56, was named Frigidaire general manager and a corporation vice-president.



24 YEARS with GM, starting as a designer, and experience as a works manager, brought Clyde W. Truxell, 51, to job as general manager of the Detroit Diesel Engine Div. in 1956.



ployees and with the public—retired for age. So, too, did the general manager of the Cadillac Div., one of the corporation's most profitable operations and its prestige show window.

Personnel Vice-Pres. Harry Anderson was succeeded by Louis G. Seaton who had helped him build GM's entire personnel and labor relations structure and in recent years had been the company's chief negotiator with unions. Public Relations Vice-Pres. Paul Garrett was succeeded by Anthony G. De Lorenzo, who has worked directly with GM Pres. Harlow H. Curtice since their Buick days; in the past year Garrett had turned most of his duties over to De Lorenzo. Cadillac General Manager Don Ahrens was succeeded by James M. Roche, who has been with Cadillac since 1927 and had been general sales manager since 1950.

• **Informal but Effective**—The presence in GM's hierarchy of so many men of such caliber confounds management theorists who are enraptured by "mod-

ern methods" of management development. Lacking a formal management development program, or even executive training courses, General Motors shows no visible signs of having any systematic method to find and cultivate future management—although it certainly does have a system just as effective.

What does GM have? In the words of one management consultant who finds nothing at all contradictory in GM's approach to management development: "It is a strongly-structured company, it has good policies, and it stresses discipline."

I. Finding Management

Formalized management development programs, say this man, and some other consultants, do no particular harm to the individuals involved and many sometimes do a little good. But they insist that such programs have become popular only because the companies that are adopting them ignored the

fundamentals of good management some time back, now seek a quick panacea.

According to the practitioners of formalized executive development, if your management is aging or weak and no replacements are in sight in the company, you set up a program. First you carefully screen your younger employees by subjecting them to various tests. Then you pick the cream of the crop, send these men to business school, and move them around in the company on a fixed schedule.

These are your marked men—and everybody knows it. Within your company they can be shielded or booby-trapped; they can be pirated by competition. Critics of this type of management development pick two big flaws:

- It hurts the morale and initiative of older, struggling men who have been trying to climb the ladder;
- And you are betting the entire future of your company on your ability

28 YEARS with GM, in sales as well as in personnel, director of labor relations since 1948, Louis Seaton, 50, became vice-president, personnel, succeeding his mentor, Harry Anderson.



35 YEARS at GM as an engineer at Delco-Remy and at Allison, Vice-Pres. R. M. Critchfield, 62, was moved up from Pontiac general manager to head process development.



10 YEARS with GM as a public relations man both at Buick and at central staff, Anthony G. De Lorenzo, 42, succeeded Paul Garrett as vice-president of public relations staff.



33 YEARS with GM, starting as draftsman at Buick and working up to be manufacturing manager, E. T. Ragsdale, 59, took over the top post as Buick general manager and a vice-president.



29 YEARS with GM, all at Cadillac in sales, personnel and public relations fitted James M. Roche, 50, to take over as vice-president and general manager when Don Ahrens retired.



26 YEARS with GM, graduate of the General Motors Institute, engineer at Cadillac and Chevrolet, E. N. Cole, 47, developed Chevy's V-8 engine, now is vice-president and general manager.



30 YEARS with GM, experienced with electrical components, carburetors, and transmissions, Edward A. Kaegi, 53, was named general manager of the Brown-Lipe-Chapin Div. in July.



33 YEARS with GM, starting as student engineer at Delco-Remy and works manager at Saginaw, O. W. Habel, 58, became general manager of the Detroit Transmission Div. in July.



20 YEARS with GM, background in aircraft, autos, and spark plugs as an engineer, 45-year-old Wallace Wilson took over as general manager of the Rochester Products Div.



to preselect a relatively few men with potential.

• **The Other Way**—There's a harder, more time-consuming way to insure future management. As one man says: "You start 30 years ago and organize your company properly. You give your men responsibility and authority. You reward them when they succeed; you discipline them when they err. You don't have to develop them; they develop themselves."

If that sounds like a prescription of the General Motors' way to train management, it is. Management authorities say that GM, rather than being a contradiction, is proof of what should be taught in business management schools. For the corporation is strongly organized—its staff-and-line concept of centralized policy-making and decentralized administration has been widely copied since it was put into effect 35 years ago.

There is more than one way to explain GM's management system. One

comes from a man in another auto company: "The biggest myth in Detroit is GM's management in depth. They don't have lots of management. All they have is lots of people. They keep trying various combinations until they get one that clicks."

II. The GM Way

The essence of the General Motors way to find executive talent is simple: Give a man a chance. Harlow Curtice has said the only way to tell whether a man can do a job is to give him responsibility for it (BW—Mar. 21 '53, p92).

There are many good examples of "men in motion" among the group that moved up at GM last year—Semon E. Knudsen is one. He went to work for GM in 1939 as a process engineer at the Pontiac Div. He was successively chief inspector of the defense plant, superintendent of the car assembly plant, and assistant master mechanic.

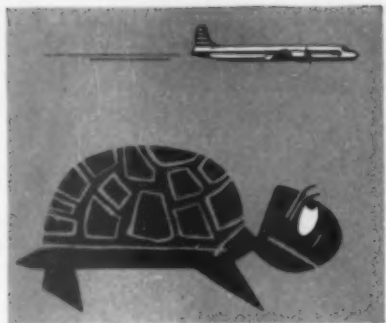
In 1949, he went to the corporation

central staff as director of the Process Development Section. In 1953, he was in Indianapolis with the Allison Div. as assistant manufacturing manager of aircraft engine operations and later as manager. In 1955, he was back in Detroit as general manager of the Detroit Diesel Div. Last spring, he returned to Pontiac as general manager, soon elected a corporation vice-president.

• **Two Reasons**—Two things in General Motors' management concept make possible such management maneuverability. And neither is new.

The first is the management fabric, woven by Alfred P. Sloan, Jr., in the early 1920s on a deceptively simple frame: "Divide the corporation into as many parts as consistently can be done, place in charge of each part the most capable executive that can be found, develop a system of coordination so that each part may strengthen and support each part. . . ."

The second is the GM incentive bonus plan, in effect since 1918. The



Every day in transit is a day lost in sales!

Get the jump on competition... by air! Slick airfreight rates are as much as 58% lower, and the minimum is down to a dollar. Your shipments via SLICK get there faster... sell faster... bring the cash faster!

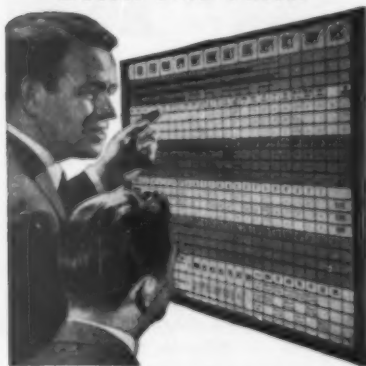
Cutting the time lag between production and sales also gives you more time to sell... more time to expand your markets.

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crux of the bonus plan is not necessarily the dollars it showers on diligent employees. Perhaps more important is that the bonus list is GM's catalogue of management potential. A man once on the bonus list is never "lost" to top management's view. In 1955, the list carried 13,284 names.

• **Bonus System**—Perhaps the key to GM's entire incentive bonus system is that there is no formula. Each award is individual. Recommendations originate with an employee's immediate superior, then move up through channels to a five-man committee of the board of directors (none of whom is eligible for a bonus). This committee can change the amount of any award, cancel an award, or initiate a bonus.

This method of bonus selection cannot be over rated as a force in GM's management development. No bonus is "routine." At some point in the system, every eligible person's performance and qualifications are thoroughly reviewed. And the review at the top is made by some of the most influential men in General Motors.

Moreover, part of the bonus is deferred—it's prorated over five years. This gives executives a big stake with GM—they stand to lose if they quit.

III. GM in Action

Take a look at some of the key changes that occurred last year in the GM hierarchy and you will find examples of all aspects of GM's system of management development. The car divisions furnish several instances.

• **Buick**—Last spring, at the height of the furor over auto companies' relations with dealers, General Motors decided to go all the way in cleaning up dealer complaints. Curtice looked for a man to be the dealers' advocate at the top corporate level, with the title of executive vice-president. His selection was Ivan Wiles, then a vice-president and general manager at Buick.

Into Wiles' post at Buick went Edward T. Ragsdale, who had been manufacturing manager at Buick for seven years. Conjecture on this selection is this: At that time, Buick's main problem seemed to be production. If sales rather than production had been the major problem, perhaps the choice would have been different.

• **Chevrolet**—A different set of circumstances was present in Chevrolet's switch of general managers. For more than a year, the post of group vice-president over the car divisions had been vacant. There was little doubt that Thomas H. Keating, a vice-president and Chevrolet general manager, some day would take over as group chief of the car divisions.

It was purely a matter of timing.

Ford had made great inroads on Chevrolet's leadership, primarily because Chevy lacked a V-8 engine. Keating had brought over E. N. Cole, now 47, from Cadillac and made him chief engineer with a first assignment of developing a competitive V-8 engine. As part of this, Cole master minded the "hot car" campaign that created the public image of Chevy as a lively "modern" car.

Cole was not Keating's "heir apparent" when he moved into Chevrolet, but some in GM suspected he might be. So Keating's advancement was delayed to give Cole time to show he had the proper administrative abilities and—equally important in a division that had grown a bit staid with success—the ability to win the confidence of key Chevrolet people who are many years his senior.

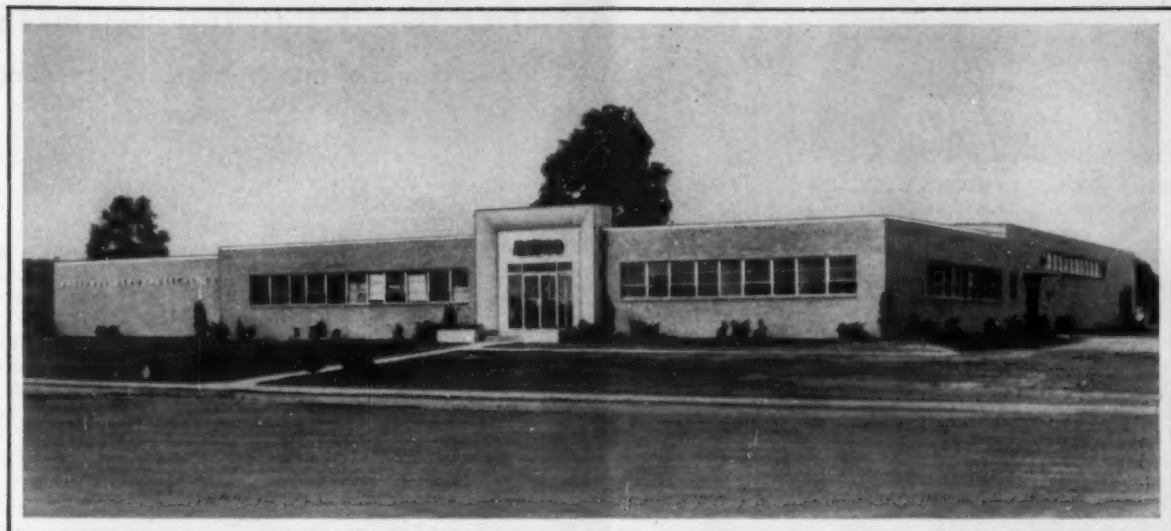
• **Pontiac**—The change at Pontiac illustrates how GM handles comers and cleans up trouble. Pontiac was slipping in the market. First, the sales manager resigned for health reasons (he's now handling sales promotion at central staff), and one of Buick's red-hot sales team moved down from Flint to take over Pontiac sales direction.

Next move was at the very top of the division. The corporation wanted a fresh approach and more sparkle at Pontiac. Over at Detroit Diesel there was found 44-year-old Semon Knudsen (son of the late GM president), who had outgrown his job. At the central staff level there was an important job—direction of intensified efforts to take full advantage of automatic machinery—waiting for the proper man. Robert M. Critchfield, Pontiac general manager and a corporation vice-president, has a solid reputation as an engineer, so he became vice-president in charge of the process development staff. Then "Bunky" Knudsen was thrown into Pontiac, a much bigger job for him.

• **Virtues of Size**—Only with its size and diversity could General Motors find new fields to conquer for its younger men and important new jobs for its older men who may have lost a little drive but have invaluable background and experience. And, when it has no new and important job to give, GM keeps its people happy with money and pride.

GM's size also enables it to perform a delicate management function that elsewhere sometimes attracts a cold glare of publicity: It can bury its mistakes quietly.

A new general manager took over at one of the divisions last year, and the former general manager moved to another division—his title isn't general manager any more, but he now works for a so much bigger division that his new job sounds as important as his old one. **END**



National Aeronautical Corporation's new 25,000 square foot plant in Fort Washington Industrial Park near Ambler, Pennsylvania.

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1. "Highly technical assistance for our engineers is readily available from many suppliers in the easy-to-reach Philadelphia area.
2. "Our strategic location, near the geographic center of a vast number of electronics industries, assures direct savings in time and money.

3. "The Pennsylvania Turnpike, its Northeast Extension, and a network of other good highways are adjacent to our plant.
4. "Fast freight and air transportation, by common carriers, is available to all parts of the country.
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"And most important has been the favorable business atmosphere in Pennsylvania, which has made possible a growth from \$36,000 in sales during 1946 to an expected \$3,000,000 this year."

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Special reports and tabulations, tailored to your specific location requirements, will be prepared upon request by engineering and economics specialists, covering:

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Water—Quantitative, qualitative analyses.

Power—Capacity, network, industrial services, costs.

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Here is the first real achievement in machineless sealing... a polyethylene bag which can be manually sealed airtight and can be reopened and resealed over and over again.

Zip Lip is ideal for protecting tools, delicate instruments and parts... also important documents, blueprints, shop tickets and other "on the job" work forms. Its uses are as varied as your imagination.

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Convincing evidence that markets are never static... that there is always a new crop of buyers and buying influences to contact... cultivate... and sell.

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Headquarters for Business Information

New Ammo in Fight for Grads

Industry's putting chunks of its advertising budgets into novel gimmicks to bring its message to the campus.

This week, a paperback made up primarily of advertisements appeared on the counters of the nation's bookstores. The book, titled *Career*, 1957, retails for \$1.95, and is expected to sell at least 10,000 copies—despite the fact that nearly 100,000 hard-bound copies already have been given away.

It's part of the deluge of new publications, novelties, and gimmicks that the current demand for college graduates has unleashed. Industry, hard put to find the 40,000 grads it wanted last spring, will have an even tougher job this year (BW—Dec. 8 '56, p103). Companies will spend an average of about \$2,600 to recruit each engineer so, with recruitment budgets running into the millions, any idea—no matter how off-beat—is worth a gamble.

- **Undergrad Project—Career**, started in 1950 by a group of Yale undergraduates, was the first to cash in on management's desperation. This year's edition, much like the first, contains 148 ads, going for \$1,000 a page, and a few "how to conduct an interview" type articles. The bulk of the 120,000 run is handed out to college seniors.

Other colleges have come out with annual magazines devoted to special occupational fields and filled with ads and gratis articles. Groups at both Harvard and Princeton have turned out special books, but the pioneering spirit seems strongest at Yale. *Wall Street*, 1955, and *Insurance World*—a two-volume publication issued in 1956 and again this year—were special projects of the Yale Daily News; and *Age of Science* is the work of a separate incorporated undergraduate group.

Age of Science is perhaps typical. The handsome 160-page volume contains 24 articles on all aspects of careers in science, contributed by industry and education notables. It will be distributed to 50,000 students in 70 colleges, with another 10,000 copies sold to large companies to give away to high schools in their home districts. The book contains approximately \$35,000 worth of ads.

- **New Trend—Less enterprising students**, too, have prospered from the tight labor market. Before 1952 it was rare for a company to take space in college newspapers to herald a recruitment visit; now the paper at a very popular school may carry recruitment ads from 500 companies. College radio stations have profited, too. The publishers of *Career* have taken time on 30 campus stations. They sponsor a show on which they resell time for spot announcements

about company visits and job opportunities.

- **Professionals**—The boom isn't staying in the hands of the undergrads; professional publishers are cashing in, too. *Industrial Science & Engineering* is sent six times a year to 35,000 engineering students. This magazine is about 60% advertising, most of it with a recruitment pitch. An added gimmick: a reply card on which the student circles the code number of the ads he wants more information on.

The *Engineers Placement Guide* is another monthly in the same vein. It relies heavily on classified ads, and goes to libraries, placement bureaus, fraternity houses.

- **Expansion**—Personnel specialists are expanding their usual specific searching operations, too, to pick up some of this advertising revenue. *Decision/Inc.*, a Cincinnati organization, began two years ago to issue the *Engineer's Job Directory*. In addition to display ads, EJD contains listings of companies with pertinent job data. A total of 406 companies have bought space in this year's issue. *Decision* has also sold some 46 companies on its direct mail service, which rents lists so the company can send personal letters to students before campus visits.

Directories that don't charge for listings turn a profit, too. The *College Placement Directory* put together by two University of New Hampshire professors, and published by their own consulting organization, sells for \$10. The third edition—listing data on 2,000 companies—is due this fall.

College placement officers are planning to get into the act. Their College Placement Publications Council, Inc., which puts out the recruitment ad-laden monthly *Journal of College Placement*, plans to publish a directory of between 4,000 and 5,000 companies. The directory would accept a maximum of 100 pages of ads, at \$975 per, and operate on a nonprofit basis.

- **Off-Beat Plans**—There are even more novel plans afoot. Last year's all-industry *Career & Job Show* in New York City (BW—Mar. 31 '56, p48) was so successful, says Private Vocational Schools Assn.—which sponsored the show—that the exposition will probably be restaged this year. And the Campus Merchandising Bureau is working on an idea to bring a show to the colleges. Its *Campus Caravan* of trailer-borne industrial exhibits didn't get rolling last year, but it may hit the road in October with three three-trailer units. **END**



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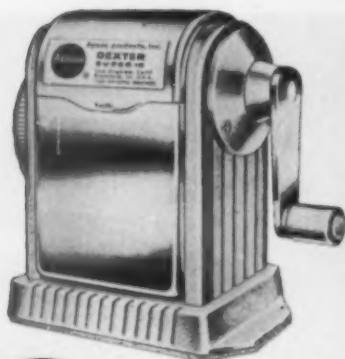
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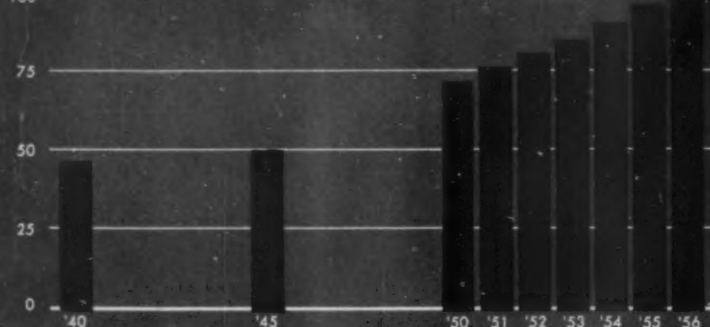
BUSINESS WEEK

P. O. Box 12, N. Y. 36, N. Y.

CHARTS OF THE WEEK

Growth in World's Telephones

Millions of Telephones



Data: American Telephone & Telegraph Co.

BUSINESS WEEK

It's a Talkative World

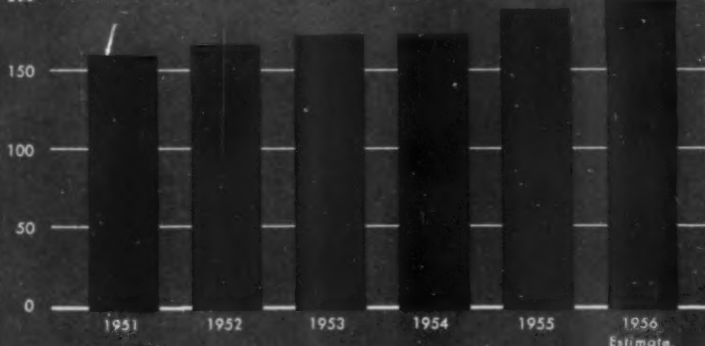
The total number of telephones in use around the world pushed past the 100-million mark on Jan. 1, 1956, reports the American Telephone & Telegraph Co. As 1956 began, there were 101-million telephones — 6.5-million more

than a year before, and twice as many as 10 years earlier. This was the biggest increase since 1947, when war-disrupted service was still being restored.

The United States had 56.2-million phones, more than half the total.

Retail Sales

Billions of Dollars



Data: Dept. of Commerce.

BUSINESS WEEK

A Modest Rise

Sales of retail stores in 1956 topped the 1955 level by about 3.5%, compared with a 9% gain for 1955 over 1954. Much of last year's rise can be attributed to higher prices; volume increase probably was closer to 1%.

Higher prices also met with some consumer resistance. And the higher cost of services, transportation, and medical care took consumer dollars that might have gone for goods in the retail shops.

Nondurable goods sales registered the

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users will be able to study and compare the modern, efficient machines they'll need to build your new roads in all parts of the country.

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Selling Opportunities Wanted

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Established Midwest Mfg. representative desires additional line now calling on hardware, iron & steel, machine tool, and farm implement mfg. RA-2882, Business Week.

Minnesota Manufacturer's Representative. Interested in Specialty Items and Fasteners for the Garment and Allied Trade. RA-2905, Business Week.

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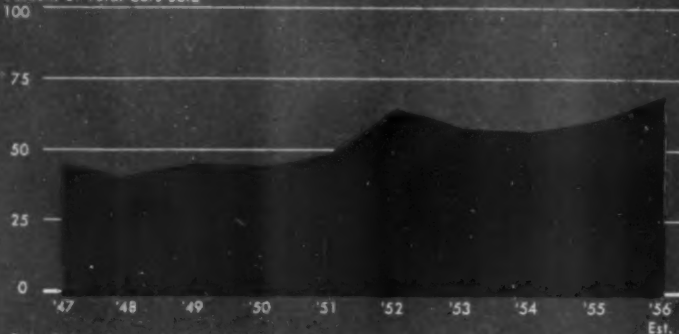
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biggest rise — about 6% over 1955. Total durable goods sales declined, although sales of furniture, appliances,

and the lumber, building, and hardware group gained. The value of auto sales tumbled.

Credit Sales of New Cars

Percent of Total Cars Sold



More People Are Riding on Credit

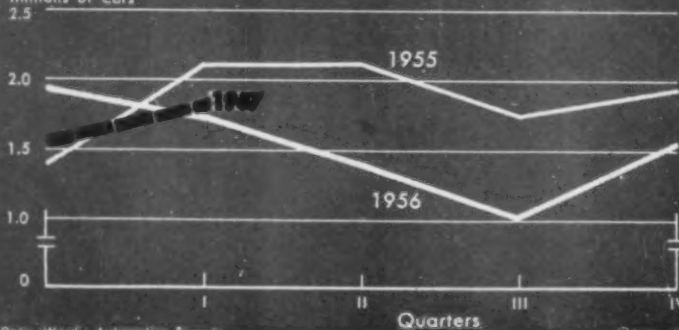
A higher percentage of new cars were sold on the cuff last year than ever before. On the basis of the 11-month figures, it is indicated that new passenger cars sold for credit during 1956 rose to about 70% of total sales. This surpasses

1955's 62% and the previous high of 66% reached in 1952.

Total new car sales declined sharply during 1956, credit sales not as much. Result: An increase in the proportion of credit sales to total new car sales.

Passenger Car Production

Millions of Cars



Auto Plants Speeding Up

U. S. auto makers are geared for an increase in production during the first quarter of 1957. Schedules call for a total of 1,842,500 car assemblies—more than in any quarter of 1956 and, what's more, a better figure than in any previous first quarter except 1955's 2,129,018. Some of the credit for the upturn goes to the need for building inventories, well below their year-ago level as of Jan. 1, 1957.

Production will be split among the big three companies this way:

- General Motors expects to produce 46.9% — the same as its share in December, 1956, but below the 55.5% it turned out a year ago.
- Ford's schedule would account for 30.8% of the total, an improvement over 25.3% a year earlier.
- Chrysler looks for 18.7%, up from 14.6% a year before.

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How to Avoid Paying More Blackmail

In the process of spelling out its new Middle East policy, the Eisenhower Administration has added several new dimensions to our military and economic responsibilities abroad (page 137). As we see it, the Administration may well have to add still another dimension—a program to reduce Western Europe's dependence on the Suez Canal and, indeed, on Middle East oil supplies. Otherwise, it is hard to see how, on the one hand, we can gain the necessary bargaining leverage in the Arab world to achieve our Middle East goals or, on the other, we can give Western Europe the economic security it needs if it is to remain a strong and loyal partner.

At bottom, what's involved is Western Europe's energy gap—its dependence on imported fuels to achieve industrial growth. And the problem is to reduce both Europe's "transport dependence" and its "supply dependence" to the point where it is no longer completely at the mercy of Middle East tensions or Arab hostility.

It is for the experts to decide how this problem can best be tackled. But it seems to us that even the layman can appreciate some of the basic facts. For instance, Western Europe's present transport dependence surely could be reduced by (1) new pipeline construction through more friendly countries; and/or (2) a U.S.-European program to build a huge fleet of modern tankers. As for its present supply dependence, that surely could be reduced by (1) the rapid development of new oilfields, for example, in Iran, the Sahara, or Western Europe itself; and/or (2) a crash program for developing nuclear energy supplies in Western Europe.

Quite clearly, the cost of pushing all of these at once would be prohibitive. It has been estimated, for instance, that a five-year tanker program to make Western Europe independent of Suez would cost about \$8-billion. It may be that all that's necessary to improve our bargaining position in the Arab world, and to reassure our European friends, is to announce our intention of joining Western Europe in a coordinated program for solving that area's energy gap. There has been a private suggestion in this country that Washington should propose a 20-year "Atlantic Power Pact," which would provide for across-the-board cooperation in the energy field. For our money, this is a suggestion that merits Washington's consideration.

Speaking Up

The American Assn. for the Advancement of Science at its annual meeting last month set up a special committee to study ways in which scientists can swing more weight in public decisions. This

action—a drastic one for born and bred academicians—was prompted by a report that had been drawn up in the preceding year by an Interim Committee on the Social Aspects of Science.

There's nothing in the conclusions of this report that anyone can take exception to. The committee simply says that scientists should form and express opinions about the consequences of various public policies, particularly policies that involve the use of new scientific discoveries such as atomic fission.

But the preliminary language of the report goes further. It remarks, for instance, that "At a time when decisive economic, political, and social processes have become profoundly dependent upon science, the discipline has failed to attain its appropriate place in the management of public affairs." And it complains that "so-called practical men of public affairs and business frequently disregard the advice of scientists."

This is an altogether different matter. There is no reason at all why scientists should not express their opinions on public policy—provided it is clearly understood that outside the field of his special competence a scientist's opinion is worth exactly what anyone else's opinion is worth and no more. But the man who knows all about atoms doesn't necessarily know all about international affairs. The scientists will have to accept the fact that only journalists are licensed to speak with authority on all subjects.

An Overdue Study

The news that Pres. Eisenhower favors creation of a National Monetary Commission to carry out a full scale study of our entire financial system is an important forward step. Such a study has been advocated by a great many sources, but the Administration's support of the proposal was essential to getting action.

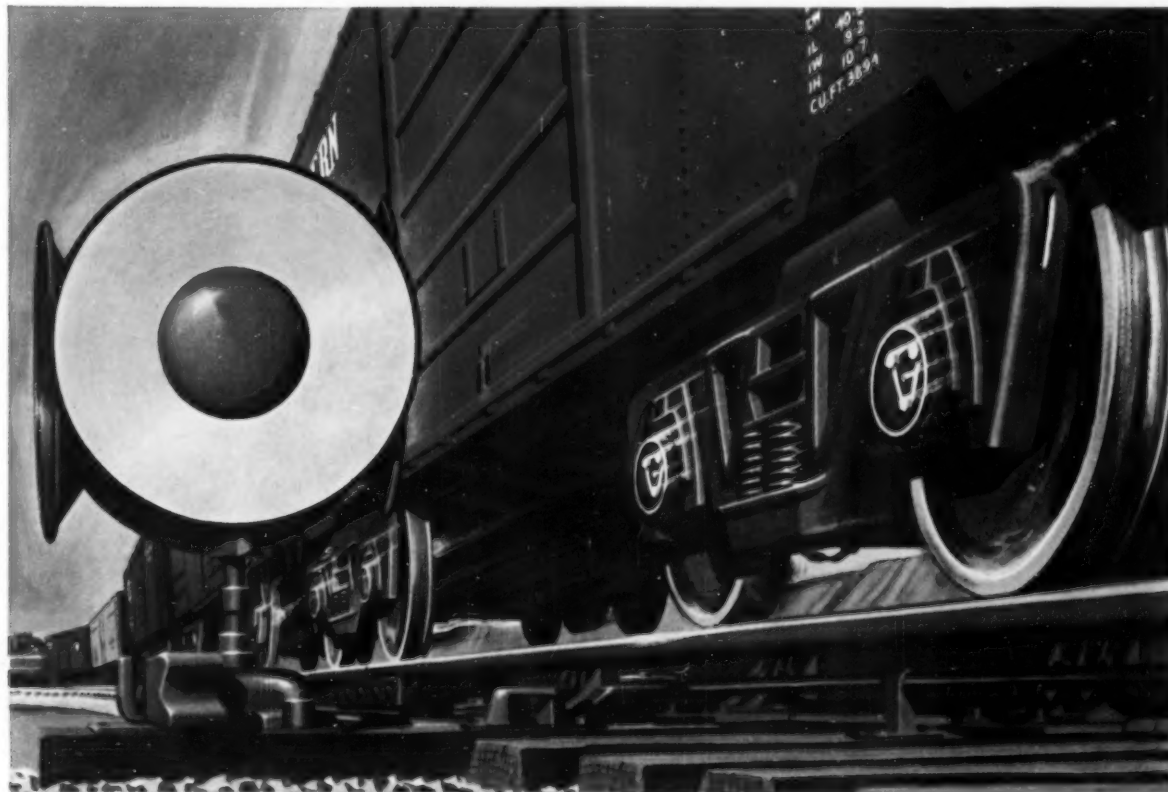
We have not had a thorough study of our monetary system since the Aldrich Commission conducted its work before World War I. Since then, and especially in the last 10 years, we have seen a great many basic changes that have introduced imperfections and contradictions in both our monetary framework and monetary policy.

The monetary commission must be both non-political and non-partisan. Its problem is not only to acquire new knowledge of the workings of our monetary system under present day conditions. It must also be prepared to surrender widely held theories and concepts concerning our monetary policy and our financial network that prove to be false.

why freight service today is the fastest in history...

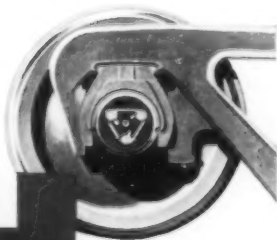


ONE REASON IS TWO-WAY RADIO. Now the conductor in the caboose a mile behind is as close to the engineer as the phone at his fingertips. So are other trains, yardmasters, and the dispatcher 200 miles away. On some 13,000 locomotives and cabooses, instant "on the run" radio contact is saving countless hours each day.



Another  contribution
to railroad
prosperity

ONE MORE BIG REASON IS HYATT HY-ROLL BEARINGS for non-stop freight. Hyatts banish hotboxes, one of the major causes of freight train delays. They eliminate time-wasting waits for inspection and lubrication, too, because they have a three-year grease supply sealed in. The new simplified design of HYATT Hy-Rolls makes them so economical to install and maintain that 27 progressive railroads have already adopted them. Roller bearings play a vital part in the multi-million-dollar rail modernization program to make America's freight service *better than ever before!* Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.



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she's choosing
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BOLTA'S new Quilted Foam shows what can be done to influence customers with versatile Geon polyvinyl materials.

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Geon polyvinyl materials are available in literally hundreds of types, as resins, compounds, latices, polyblends, to perfectly match the requirements of thousands of products. These range from flexible upholstery to rigid piping and ductwork, from window gasketing to coatings for steel, paper, or textiles.

In your applications, selection of Geon polyvinyl materials is the right start to a quality product. For information write Dept. P-1, B. F. Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

Vinyl foam made from Geon resin is a flexible, open-cell structure that has up to three times the tear resistance of other foam materials. It is easily heat-sealed to the vinyl surface by automatic equipment. Bolta's vinyl foam and Quilted Foam are distributed by General Foam Corporation, New York.



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